(23,761)

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1914.

No. 204.

GEORGE B. CHRISTIE, JESSE LOWE, AND JAMES O. HEYWORTH, SURVIVING PARTNERS OF THE FIRM OF CHRISTIE, LOWE AND HEYWORTH, APPELLANTS,

vs.

THE UNITED STATES.

APPEAL FROM THE COURT OF CLAIMS.

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JUDD & DETWEILER (INC.), PRINTERS, WASHINGTON, D. C., AUGUST 11, 1914.

1 In the Court of Claims.

No. 24693.

GEORGE B. CHRISTIE, JESSE LOWE, and JAMES O. HEYWORTH, Surviving Partners of the Firm of Christie, Lowe & Heyworth,
v.
THE UNITED STATES.

1. *Amended Petition.*

(Filed April 7, 1906.)

(Original Petition Filed January 15, 1904.)

To the Honorable the Court of Claims:

The claimants, George B. Christie, Jesse Lowe, and James O. Heyworth, respectfully represent:

They are the surviving partners of the firm of Christie, Lowe & Heyworth, composed of themselves and George A. Lederle, who was one of the original claimants in this case, but who, on the 27th day of March, in the year 1905, departed this life; his death on that date having been heretofore regularly suggested.

2 1, *Advertisement, Proposal and Contract.*

On the 20th day of December, in the year 1899, Major William T. Rossell, Corps of Engineers, U. S. Army, by authority of the Secretary of War, advertised for sealed proposals for building locks and dams Nos. 4, 5 and 6, Warrior River, Alabama, to be made by the 20th day of January, 1900. The advertisement was accompanied by specifications. Copies of said advertisement and specifications are annexed to this petition, marked "Exhibit A."

Prior to bidding on the work, the claimants applied for an examination of the plans; and a complete set of plans for all of said work at all three of the locks and dams was then shown to them at the office of the United States Engineer at Tuscaloosa, in the State of Alabama.

Within the time limited by said advertisement, the claimants herein submitted a proposal in writing, with the guaranty required by the specifications, which proposal was accepted.

Thereafter, to wit: on the 19th day of February, 1900, the claimants entered into a contract with the United States, acting by said Major William T. Rossell, Corps of Engineers, U. S. Army, for the construction of said locks and dams, Nos. 4, 5 and 6, Warrior River, Alabama, a copy of which contract is annexed to this petition, marked "Exhibit B."

Said contract was approved by the Chief of Engineers, U. S. Army, on the 10th day of March, 1900.

By one paragraph of the specifications, forming a part of said contract, it was provided as follows:

"38. The work must be commenced within thirty days from date of notification of approval of contract by the Chief of Engineers; and, if there is no interruption or delay caused by lack of available funds, it must be completed not later than December 31, 1901."

On the 29th of April, in the year 1902, a supplemental contract was made with the United States which was duly approved
3 by the Chief of Engineers of the Army and by the Secretary of War, a copy of which contract is annexed to this petition, marked "Exhibit C."

By paragraph 78 of the specifications provision is made for "The United States Engineer Officer in charge," and by said paragraph and other paragraphs of said specifications certain duties are imposed and certain powers conferred upon said United States Engineer Officer in charge.

At the beginning of work under said contract Major William T. Rossell, Corps of Engineers, U. S. Army, was the United States Engineer Officer in charge and so remained until the ninth day of September, in the year 1901, when he was succeeded by Captain Spencer Cosby, Corps of Engineers, U. S. Army, who so remained until the fourteenth day of March, in the year 1903, when he was succeeded by Captain William E. Craighill, Corps of Engineers, U. S. Army, who remained thereafter until the close of work under the contract to be United States Engineer Officer in charge. The office of said United States Engineer Officer was throughout the work under the contract in the City of Mobile, Alabama.

Said United States Engineer Officer in charge will hereinafter be referred to for greater brevity as the "Engineer Officer."

Said paragraph 78 of the specifications also provides for "the local or resident engineer," and by said paragraph and other paragraphs of the specifications certain duties are imposed and certain powers conferred upon such local or resident engineer.

At the beginning of work under the contract R. C. McCalla, a civilian engineer employed by the United States, having his office at Tuscaloosa, Alabama, was the local or resident engineer, and so remained until the close of work under the contract and will be hereinafter referred to for greater brevity as the "resident engineer."

4 2. *Delays in Permitting Commencement of Work.*

On the 12th day of March, in the year 1900, the Engineer Officer wrote from his office in the City of Mobile, Alabama, to the claimants at their office in the City of Chicago, Illinois, that their contract had been approved by the Chief of Engineers of the Army and therein called the attention of the claimants to the requirement of paragraph 38 of the specifications—"The work must be commenced within thirty days from date of notification of approval of contract by the Chief of Engineers."

The claimants received the letter of said Engineer Officer on the

14th day of March, 1900, and on the same date answered, acknowledging receipt thereof. They at once proceeded to purchase machinery and materials for the purpose of promptly beginning and vigorously proceeding with their work under the contract, and otherwise commenced preparations for that work.

On the 25th day of March, 1900, Jesse Lowe, a member of their firm and one of the claimants, arrived at Tuscaloosa, Alabama, the nearest convenient point to the work, and established headquarters there, that place being also as hereinbefore stated the headquarters of the resident engineer.

On or about the first day of April, 1900, the claimants asked for a set of working plans for the work to be done at the three locks and dams, and four complete sets were given to them, one for the work at each lock and dam and a set of the three for their office at Tuscaloosa. All said plans were dated November, 1899; were made by draughtsmen employed by the Government, and were approved by Assistant Engineer R. C. McCalla and Major W. T. Rossell, Corps of Engineers, U. S. Army, and were the same as those hereinbefore referred to as having been shown to the claimants when bidding on the work.

On the 10th day of April, 1900, the claimants, through said Jesse Lowe, commenced at said Tuscaloosa, Alabama, the construction of barges necessary for the proper prosecution of the work. They also within thirty days from notification of approval of the contract by the Chief of Engineers began work on each of said locks and dams Nos. 4, 5, and 6. By the 24th day of April, 1900, they had so far proceeded with said work that they were ready for the stakes to be set by the United States for clearing and excavating. They thereupon, on said 24th day of April, 1900, applied both verbally and in writing to the resident engineer to have the stakes set for the work, as well as to have the mounds located for all of said locks and dams.

No written answer was received to their written application, but the resident engineer orally replied that the title of the United States to the sites of the work was not yet perfected so as to allow the claimants to begin work.

By the 30th day of April, 1900, they had under construction twenty-five buildings for storehouses and temporary quarters, a large force of men building roads to the lock sites, and erecting machinery, and a large quantity of machinery and tools ordered and in transit, a large quantity of lumber purchased and numerous barges under construction, representing an outlay of between sixty and seventy thousand dollars. They also had thirty-six thousand barrels of cement purchased at two dollars and fifty-two cents a barrel, the cost of said cement thus being eighty-eight thousand, seven hundred and twenty dollars ($88,720). Twelve thousand barrels of said cement were then actually in transit.

On said 30th day of April, 1900, they again addressed a letter to the resident engineer, calling attention to their preparations, as hereinbefore set forth, the damage that would be incurred by them if delayed in the prosecution of the work, and stating that

they would claim damages for delay if not permitted to proceed with the work, and demanding an immediate and definite reply. No answer was received to this letter.

On the 8th day of May, 1900, the claimants were verbally notified by the resident engineer that stakes would be set for clearing at locks 5 and 6, and stakes for excavation on the lock sites only
6 at locks 5 and 6, thus excluding excavation at the dams and abutments at said locks 5 and 6, although the claimants were ready, willing and desirous to proceed therewith.

On the 9th day of May, 1900, stakes were set for clearing at lock 6, and on the 10th day of May, 1900, at lock 5.

On the 14th day of May, 1900, the stakes were set for excavation of the lock site of lock 6, and the claimants were verbally informed by the resident engineer that they could only work on the lock sites, and that they must not excavate the approaches or the abutment sites, to which statement they then and there objected. They were also verbally informed at the same time that they could not begin excavation or do any work whatever at lock 4, because the United States did not have the right of way thereto, to which statement they also objected.

On the 16th day of May, 1900, stakes were set at lock 5, for excavation on the lock site only.

On the 7th day of June, in the year 1900, they addressed a letter to the resident engineer, requesting him to set stakes for lock No. 4, to which no response was received.

On the 3d day of July, 1900, the claimants again wrote said resident engineer, calling his attention to the fact that the abutments at locks 4, 5 and 6 had not been staked out, and asking that they should be so staked, in order that work might be done on them when the water is too high to work on the locks; and stating that they had the plant ready for work on both the locks and the abutments simultaneously; and stating that if danger of caving were apprehended, the remedy is to increase the excavation slopes or put in sheathing, as contemplated by paragraph 51 of the specifications forming a part of their contract. No reply was received to this letter; but the claimants continued to insist verbally upon the work being laid out for them; but the resident engineer insisted that the lock sites should first be excavated, and then the abutments; while the claimants insisted upon a simultaneous prosecution of all the work
in accordance with paragraph 81 of the specifications, in
7 order that all the work might be completed within the time limited by the contract, and that they might do the work in the most effective and economical manner, for which purpose they had assembled a very large and expensive plant.

About the middle of June, 1900, stakes were set for clearing at lock 4, and clearing as there commenced, but excavation was not then permitted at said lock 4, for the reason verbally assigned that the title of the United States to the land, or to the right of way over the same, was not yet perfected. No excavation was permitted at said lock 4 until the 14th of August, 1900, when it was permitted on the lock site only and was commenced.

On the 20th of August, 1900, the claimants notified the resident engineer that in one week of good working weather the excavation for the lock spaces at locks 5 and 6 would be completed, demanding that if any other excavation was to be done, stakes should be set for it before the team force were disbanded; also notifying him that they were ready to proveed with the abutment excavation, and suggesting that in case of danger of the banks caving, they should be protected by giving more slope, or by sheathing; and insisting that they should not be held back with the work. To this notification no written reply was received. But the resident engineer verbally stated to the claimants that he would not permit any excavation in the year 1900, except on the lock sites, to all of which the claimants objected, but without avail.

On or about the 10th day of October, 1900, the claimants then having a large force of their own teams on the ground ready to do all work under the contract requiring the use of teams, and also having engaged from other persons, citizens and residents of the vicinity of the work, a large number of other teams,—requested of the resident engineer to be allowed to proceed with all work on the abutments and approaches of all said locks and dams upon which the labor of teams was required. But the said resident engineer refused to stake out any work to be done with said teams, and
8 refused to permit any further work to be done then, or until the summer of the following year, which would require the use of such teams; whereby all said teams, as well their own as those which they had engaged, as aforesaid, from residents of the vicinity, became useless; whereby they were compelled, in order to save themselves from further loss, to sell their own mules and did sell them at a great loss; and whereby further they became involved in a controversy with the persons from whom they had engaged the other teams, as aforesaid, resulting in a suit being prosecuted against them in the courts of Alabama for the recovery of nearly $2,000, for alleged breach of contract for the hire of the services of said teams.

The season of 1900, therefore, passed with no work accomplished except on the lock sites, and without the initiation of work on the abutments, dams, or approaches.

By reason of rains and floods, it is not practicable to work from about some time in the month of November of each year to about the first of May in the following year on any work in the construction of locks or dams in said Warrior River other than the excavation of the abutments and approaches. The season of active work on the actual construction of said locks and dams themselves, including excavation of the lock pits, is thus necessarily limited to a period of little more than half of the year.

On the 10th of May, 1901, at the opening of the next season, the claimants renewed their application for stakes on abutments at all the locks, in response to which they were on the 16th day of May, 1901, authorized to begin excavating for abutments at locks 4 and 6. The claimants called attention to the omission of lock 5 but

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were verbally answered that they could not work there because the right of way had not been secured.

They again on the 15th day of July, 1901, applied in writing to the resident engineer for stakes for the abutment excavation at said lock 5 but received no response to their application. They again applied on the 12th day of August, 1901, to said engineer but received no response.

9 On the 18th day of September, 1901, they applied in writing to the Engineer Officer at Mobile, who responded on the 24th of September that he was urging the United States District Attorney to take steps to secure the title of the United States to the site of said abutment. Finally, on the 28th of October, 1901, they received authority by telegram from said Engineer Officer to commence work at the abutment of said lock 5, the delay on this portion of the work thus having been one year and ten months.

All the requests, statements, notifications and complaints hereinbefore set forth as having been made by the claimants to the resident engineer were communicated by him from time to time to the Engineer Officer at Mobile, Alabama, and the action of the resident engineer from time to time was taken by the authority and under the direction of said Engineer Officer.

3. *Construction of Wagon Roads.*

By paragraph 40 of the specifications, entitled "General description," the site for lock and dam No. 4 is, among other things, described as "about five miles by wagon road from Eutaw, the nearest railroad station." The site for lock and dam No. 5, is among other things, described as "about three miles by wagon road from Akron, the nearest railroad station." The site for lock and dam No. 6 is, among other things, described as "about four miles by wagon road from Powers, the nearest railroad station."

Also by paragraph 41 of said specifications it is provided that certain articles which are required to be furnished by the United States "will be delivered by the United States at the nearest railroad station, and must be hauled, stored, cared for and built into the permanent construction by the contractor without cost to the United States."

The claimants discovered, after they had entered into the contract, that the description of the sites of all said locks and dams, as being connected by wagon roads with the several stations
10 named in said paragraph 40, and from which by paragraph 41 they were required to haul certain articles, was entirely unfounded in fact. No wagon roads whatever existed, and in each instance the lock site where most of the work was to be done was on the opposite side of the river from the station named. The entire distance to be traveled from the railroad stations named or from any other point of approach was over private lands, over which not even a right of way existed or was ever secured by the United States. It was thus necessary for the claimants to obtain, by purchase from private owners, the right of way over lands from the

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railroad stations named, and they did so obtain them with the following exception: In the case of lock and dam No. 4, it was impossible to obtain from one of the owners of land intervening between said lock and dam and Eutaw Station the right of way on any terms, therefore, the right of way was secured and a road built from May's Station on the opposite side of the river, and in the opposite direction from Eutaw, the station named in the specifications.

These roads were absolutely necessary for the transportation of material and supplies of all kinds required for the fulfillment of the contract; they had to be constructed through forests and swamps, the land cleared, streams bridged, and the way graded and corduroyed—all very expensive work. The United States used, and are still using, all these roads in addition to the use of them by the claimants for the work; but no part of the expense was ever paid by the United States. Since said roads were built the United States have had them surveyed, and these surveys are the only record in the Engineer Department of the Army of roads leading to the locks. The cost of this work amounted to four thousand nine hundred and forty-six dollars and fifty-eight cents ($4,946.58).

11 4. *Erroneous and Deceptive Borings.*

By paragraph 48 of the specifications it is, among other things, provided:

"The material to be excavated, as far as known, is shown by borings, drawings of which may be seen at this office, but bidders must inform and satisfy themselves as to the nature of the material."

In accordance with this provision, the claimants examined the drawings referred to at the office of the resident engineer, at Tuscaloosa, Alabama, which drawings showed gravel, sand and clay of various descriptions, and showed no other material.

In fact the material to be excavated consisted largely of stumps below the surface of the earth, buried logs, of cemented sand and gravel (none of the sand or gravel being described in the said drawings as cemented), and of sandstone conglomerate. All of these materials last named are far more difficult and expensive to penetrate and excavate than ordinary sand, gravel or clay, such as is alone described or named in said drawings.

The existence of all such materials of a more difficult and expensive character than that described in said drawings was well known to the persons who made the borings and to the resident engineer of the United States, under whose supervision and direction they were made; and the statement in said specifications: "The material to be excavated, as far as known, is shown by borings, drawings of which may be seen at this office," was untrue in fact and misleading, and caused the claimants to propose to do the work upon the basis shown by said drawings, and not upon the basis of the more difficult and expensive work, which in point of fact

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existed, and was known to the officers of the United States, as aforesaid.

The time allowed by the advertisement within which to submit proposals for said work, was not sufficient to permit the claimants to make their own borings in order to ascertain the character
12 of the soil. The claimants were therefore forced to rely wholly upon the information furnished them, as aforesaid, by the officers of the United States, which they believed to be accurate and reliable.

By the erroneous and deceptive character of the drawings exhibited to the claimants purporting to describe the material to be excavated, as far as known by borings, the claimants were misled and were compelled to expend a large sum in excavation over and above the rates named in their proposal and contract which were based upon the material shown by such drawings. The additional expense and value of said excavation over and above the rates named in their proposal and contract was ten thousand five hundred and ten dollars and thirty cents ($10,510.30).

5. *Excavation Due to Erroneous Angle of Repose.*

By paragraph 48 of the specifications, entitled "Excavation," it is, among other things, provided:

"All excavations shall conform to such lines, slopes, and grades as may be given by the Engineer Officer, and anything taken out beyond such given limits will not be paid for by the United States."

Also—

"The limits of the excavation and quantities to be excavated will depend upon the ascertained angles of repose."

By the term "angle of repose" is meant such a slope as will cause a bank of earth to remain in position without giving way, and must be determined by the conditions the material in question is subjected to.

The resident engineer selected a one on one slope, being an angle of 45°, for the sides of all excavations of lock pits and abutment pits. The banks at the site of this work were of a light sand and loam deposit, and besides being subjected to the rain, were frequently soaked by the rises of the river overflowing them,
13 and would not stand at the angle of one on one at which the claimants were required, as aforesaid, to excavate them, and which was not within the true intent and meaning of the specifications an angle of repose, the true angle of repose being a slope of one on four, viz., an angle of 14° 2′.2″ from horizontal.

Said banks were also filled with springs, causing continual seepage, which rendered them still more unstable; and the claimants were also required to build on top of said banks mounds of earth, imposing a very great and artificial weight thereon, and causing said banks to slough off even more than they would do in their natural condition.

Repeated and continued objections and protests were made by

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the claimants to being required to excavate at such an impracticable angle, but without avail, except during the excavation of a part of the slope of the abutment of lock 4, where the angle was changed to a one on two slope. Upon each rise of the river, as the waters receded the banks would slough into the pits which were below water, and the material had to be handled in the wet, making it far more difficult and expensive to remove; besides which the character of the work was so unhealthy as to cause many of the employees of the claimants to become ill and in some instances to leave the work entirely on account of its unhealthful character. In addition the slipping of the earth from said banks into the pits interfered with the work to be done in the excavated pits, viz: piles to be driven, foundation timbers placed, lock floor to be laid, forms to be erected, and concrete masonry walls completed. Said slipping of the earth also covered up construction already performed by the claimants, together with the tools and appliances assembled for that purpose, all of which had to be dug out by hand at greatly increased cost and expense.

Among the appliances assembled by claimants for the prosecution of the work, which were so buried, were certain forms, viz: framed and finished timber and lumber used in the construction of false work for the concrete wall, and which were necessary for use in other places in the advancing construction, and which claimants were forced to dig out for such use, for which excavation the engineer in charge refused to pay, although such work was made necessary by the adoption of the erroneous angle of repose aforesaid.

For the first two years of the work, covering a period exceeding the original contract term, fully one-half of the working time was consumed in removing the earth that had slid into and filled the pits as aforesaid, and in re-excavating for foundations. The resident engineer in charge and the United States engineer officer over him would not permit any change in the angle of excavation, on the ground that if any portion of the banks did not slip in, the Government would save paying for the excavation, and that it was a matter of indifference to the Government if the banks did slip in and had to be excavated from the pit, although such excavation entailed great additional expense and delay to the claimants.

By paragraph 51 of the specifications it was provided that sheathing might be used to reduce excavation; that when the officers of the United States refused to permit the banks to be graded to a proper angle of repose, the claimants requested as an alternative that they might be allowed to use sheathing to hold the banks firmly in position; but the resident engineer, acting by authority of the United States Engineer Officer in charge, refused to permit sheathing to be used.

The additional expense of excavation caused by the failure to ascertain a proper angle of repose, and by the consequent sloughing off of the banks into the lock pit, and the increased difficulty and expense thereby caused amounted to fifty-five thousand nine hundred and seventy-eight cubic yards, the reasonable value of the

excavation of which in the lock pits, into which the same had sloughed off, amounted to one dollar a cubic yard more than the contract price of excavation, amounting to fifty-five thousand nine hundred and seventy-eight dollars ($55,978.00).

15 The digging out of the forms buried in the sloughed material amounted to the following:

Lock 5, 168 cubic yards at $1.50	$252.00
Lock 6, 711 cubic yards at $1.31	931.41
Total for excavation of buried forms	$1,183.41
Total claimed under this paragraph for excavation of sloughed material and of forms buried therein	$57,161.41

6. *Increased Difficulty in Pile Driving.*

Owing to the erroneous and deceptive character of the drawings, as set forth in the fourth paragraph hereof, the time taken in driving the round piles was greatly increased by the greater difficulty of penetration, requiring in many instances a much greater number of blows of the hammer to get the required penetration and limiting the number possible to be driven in a day to a much smaller quantity than would have been practicable if the character of the material into which said piles were to be driven was what it had been represented to be. The time of driving said piles was also greatly lengthened by orders of the Government inspectors, many of them, as hereinafter set forth, incompetent and inexperienced, to continue hammering after the piles had reached the point of refusal. Three hundred and fifty blows were often demanded, and in one case eight hundred and seventy.

The total cost of driving the foundation piles, exclusive of the cost of the piles themselves, was eighteen thousand two hundred and nine dollars and sixty-five cents ($18,209.65). This cost was more than double what it would have been if the material had been as represented and if the requirements as to driving said piles had been reasonable. The increased expense of driving said piles over this cost was therefore one-half, amounting to nine thousand

16 one hundred and four dollars and eighty-two cents ($9,104.82), which the claimants claim under this item.

7. *Piles Billed Too Long.*

By paragraph 52 of the specifications it is, among other things, provided:

"Bills and lengths for all piles will be furnished by the Engineer Officer, but the contractor shall furnish and drive, at his own expense, test piles, wherever required, in order that the bills may be made intelligently." * * * "Their penetration shall be satisfactory to the Engineer Officer in every case, and generally, shall not exceed ½ inch from the last blow of a 3,000 pound hammer falling 10 feet for foundation piles."

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Also, by paragraph 76, it is, among other things, provided:

"Foundation and heart piles will be measured in place by the linear foot, pile heads cut off above grade to be estimated and paid for at one-third the contract price."

Owing to the misrepresentations of paragraph 48 hereinbefore set forth, and the drawings therein referred to of the borings showing the character of the ground, piles were ordered by the officers of the United States in charge of the work much too long for the requirements of the work, and a large proportion in length of said piles was waste and useless and had to be and was cut off under the direction of the engineer in charge of the work, and in some instances piles were driven with no penetration and were wholly removed. Against such excessive length of the piles the claimants protested, but without avail.

All portions of such piles cut off above grade were estimated and paid for at only one-third the contract price, whereby the claimants lost not only the remaining two-thirds of the contract price
17 for said piles, but were also compelled to pay and did pay much more for piles than the requirements of the work warranted, as the cost of the piles increased with their length in a much larger proportion than the increase of length.

The entire cost to the claimants of the piles and of driving the same was thirty-two thousand five hundred and sixty-seven dollars and eighty-two cents ($32,567.82), of which, as stated in the preceding item, the cost of driving the same was eighteen thousand two hundred and nine dollars and sixty-five cents ($18,209.65), leaving as the total cost of the piles themselves fourteen thousand three hundred and fifty-eight dollars and seventeen cents ($14,358.17). The official estimates of the United States on which the claimants were paid show that thirty per cent. of the amount of these piles was cut off, whereas ten per cent. would have been an ample cut off. The claimants therefore claim for the unreasonable and excessive cut off twenty per cent. of the entire cost of foundation piles, amounting to two thousand eight hundred and seventy-one dollars and sixty-three cents ($2,871.63).

8. *Sheet Piling.*

In driving sheet piles the same difficulties were encountered, owing to the erroneous and deceptive character of the drawings named in paragraph 48 of the specifications and referred to in the two next preceding paragraphs of this petition. Many of said sheet piles could not be driven to the desired penetration, owing to the obstructions named in the two preceding paragraphs being encountered. The time of driving them was greatly increased and many of said piles were damaged by the unnecessarily great amount of hammering required by the Government inspectors after said sheet piles were driven to the point of refusal to such an extent that the piles were often destroyed and were required to be replaced by the claimants at their own expense to their great loss and damage.

18 The total cost of driving the sheet piles, exclusive of the cost of the piles themselves, was twenty-six thousand nine hundred and eleven dollars and thirty-five cents ($26,911.35). This cost was more than double what it would have been if the material had been as represented, and if the requirements as to driving said piles had been reasonable. The increased expense of driving said piles over this cost was therefore one-half, amounting to thirteen thousand four hundred and fifty-five dollars and sixty-seven cents ($13,455.67), which the claimants claim under this item.

9. *Cofferdams.*

By paragraph 45 of the specifications it is, among other things, provided:

"It is probable that the sheet piling entering into permanent construction can, with proper banking and shoring, be made to serve the purpose of cofferdams, but the contractor must rely upon his own judgment in regard to this. Should additional cofferdams be needed they shall be built on plans approved by the Engineer Officer, and, where liable to interfere directly or indirectly with navigation, shall be removed when no longer needed, the building, maintaining, and removal of same to be without cost to the United States."

When the work was being let certain hydrographs were exhibited to the claimants giving the gauge readings of the Warrior River (called above Tuscaloosa the Black Warrior River) at Tuscaloosa, Alabama, whereby the claimants were led to believe that the same conditions as to floods and river stages existed at the site of Locks 4, 5 and 6 as existed at said Tuscaloosa. In point of fact the slope of the river in the vicinity of Tuscaloosa is such that floods pass rapidly there, while on the flatter reaches of the river, such as the location of locks 4, 5 and 6, it takes longer for the water to run off. Opposite Tuscaloosa, within a distance of a mile, there is a fall of about 30 feet, while the river only falls the same distance in about 97 miles below Tuscaloosa. The Bigbee River, or Tom-
19 bigbee River, which forms a junction with the Warrior River below lock 4, when in a flooded condition affects the Warrior River by backing the water up therein; therefore the assumption that the flooded conditions would be the same at the sites of these locks as at Tuscaloosa was wrong.

There were at the time in existence and in the possession of the United States certain hydrographs of said Warrior River taken at a point much nearer to the site of all of these locks and dams, to wit: at the bridge of the Alabama Great Southern Railway seven miles above lock No. 4, and at Millwood, ten miles below said lock No. 4, which exhibited the condition of the river much more nearly according to its state at the site of this work, the existence of which hydrographs was not known to the claimants until long after the contract had been awarded to and executed by them and which would, if seen by the claimants, have made a material difference in

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their estimate of the conditions existing at the sites of the work and the expense of construction of the same.

In designing the work and preparing the specifications for the same, it was the intention of the Engineer Officer acting on behalf of the United States, as expressed by him in the specifications, that the sheet piling entering into permanent construction should first be driven into place and then used to serve as a cofferdam. On account, however, of the water at each of said sites of each of said locks and dams, only on rare occasions falling to the level shown by the drawings exhibited to the claimants as that of low water, it was impossible to place the sheet piling without first building cofferdams around the sites of all said locks. It was therefore necessary, in order to provide proper protection for making the excavation and driving the permanent sheet piling, to construct cofferdams consisting of sheet piling made up of two rows of two-inch plank, and a levee on both sides of the same, built up of material from the lock pit excavation. The resident engineer insisted that this precaution was not necessary, and gave instructions to his inspectors at the locks to limit the claimants in the amount of material allowed for banking up this protection. On two occasions in the year 1900 this interference on the part of said engineer prevented the claimants from keeping the cofferdam up to the proper height, and caused flooding of the lock pit. The claimants insisted, both verbally and in writing, to the United States Engineer Officer, and to the resident engineer, that they were entitled to be paid for these cofferdams on the ground that they were necessary, before even the permanent sheet piling, which was itself, by paragraph 45 of the specifications, to serve the purpose of a cofferdam, could be placed in position. Said Engineer Officer, nowever, held that it was incumbent upon the claimants to finish said cofferdams to a height of ten feet above low water, at their own expense.

Upon the approach of the winter season of 1900-1901 the Engineer Officer directed the claimants to finish these dams to a height of 10 feet above low water at their own expense and to cap these with a cofferdam built with sheet piling to a height of 20 feet above low water, this last to be paid for by the United States under paragraph 88 of the specifications. He reported his action in so doing to his superior officers and his view was concurred in by Colonel Peter C. Hains, Corps of Engineers, U. S. Army, Division Engineer South East Division, who said "The work proposed is outside the contract (extra)."

The Chief of Engineers concurred in the views of the Engineer Officer of the Division, and said:

"As the information at hand regarding the regimen of the river at the localities in question was insufficient when the work was advertised, and as neither the Officer in charge nor the contractors were able to form an intelligent idea of the gauge heights of the stream until after the work of construction was actually entered upon, it is believed that the sheet pile cofferdam now found to be necessary to the proper construction of the locks was not contemplated by the specifications nor by the information given intending

bidders on the contract, but constitutes a modification of the
21 project, which should be provided for by supplemental articles of agreement, allowing the contractors such compensation therefor as may be agreed upon by the contractors and the local officer, and approved by the Chief of Engineers and the Secretary of War.

The question was thereupon submitted to the Judge Advocate General of the Army whether there was legal authority to pay for the work in constructing the cofferdam to an increased height, as aforesaid, which question said Judge Advocate General decided in the negative and no payment for any of such work has been made by the United States. The claimants therefore pray that in accordance with said paragraph 45 of the specifications, or, if necessary, by reforming said paragraph so as more nearly to express the true intent and meaning of the parties as hereinbefore set forth in this paragraph, they may be allowed the cost of said cofferdams to them, amounting to eleven thousand four hundred and fifty-six dollars and ninety-one cents ($11,456.91).

By paragraph 46 of the specifications it is, among other things, provided:

"It is probable that the dams can be built without cofferdamming, but the contractor must rely upon his own judgment in regard to this, and should cofferdams prove necessary, it is understood and agreed that they shall be furnished by the contractor without cost to the United States."

Owing to the same concealment of hydrographs hereinbefore set forth, the claimants were misled in regard to the possibility of the dams being built without cofferdamming, as they were with regard to the locks under paragraph 45 of the specifications. They therefore necessarily had to construct cofferdams for the purpose of building the dams, at an expense of three thousand seven hundred and eighty-three dollars and seventy-six cents ($3,783.76), which amount they claim.

22 Total under this item of claim:

Coffer dams for locks	$11,456.91
Coffer dams for dams	3,783.76
Total	$15,240.67

10. *Excavation Through Cofferdams.*

By paragraph 48 of the Specifications it is provided:

"All dredged or excavated materials, of whatever nature, will be classified as 'Excavation.'"

In building cofferdams for the lock work it was necessary to build them across the area where the dam was to be built. After the construction of the lock wall when the cofferdams were no longer needed for the protection of the lock pit, said cofferdams had to be excavated and removed to make way for the construction of the dams.

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The claimants at the time claimed payment for the excavation and removal at the price named in their contract for excavation, but payment was refused on the ground that by paragraph 45 of the specifications cofferdams, "where liable to interfere directly or indirectly with navigation, shall be removed when no longer needed, the building, maintaining and removal of same to be without cost to the United States." That provision, however, has no application to the excavation and removal mentioned in this paragraph for the reason—

1. That said cofferdams were built to a greater height than was required or contemplated by the specifications as set forth in the last preceding paragraph of this petition.

2. Because said cofferdams were not excavated and removed for the reason that they were liable to interfere with navigation
23 but because they stood in the way of construction of the dams.

The amount of said excavation through cofferdams at each lock, and the value of same at contract prices, is as follows:

Lock 4, 533 cubic yards at $0.28	$149.24
Lock 5, 1,091 cubic yards at $0.50	545.50
Lock 6, 705 cubic yards at $0.31	218.55
Total	$913.29

11. *Change from Sand and Gravel Filling to Stone.*

By paragraph 40 of the specifications it is, among other things, provided:

"The dam will be built of timber crib work, tightly sheathed and filled with gravel or stone, and will rest on pile foundation."

Also, by paragraph 46 of said specifications, it is, among other things, provided:

"The dam shall be filled with gravel or stone or both at the option of the Engineer Officer."

Also, by paragraph 49 of said specifications, it is, among other things, provided:

"Gravel filling will be used in the dam and underneath lock floor as shown on the drawings, and may be used elsewhere as required by the Engineer Officer"

At the time that the claimants were preparing to bid on this work there were exhibited to them and to all other such bidders drawings of the work which showed on a cross-section of each of the three dams a direction "filled with sand and gravel" and showed no stone filling whatever. After the claimants became the
24 accepted bidders and entered into the contract a copy of the same drawings was delivered to them as the working drawings. They thereupon proceeded to comply with the directions therein contained and prepared a plant for raising gravel from the bed of the river where it could be obtained in immediate proximity to the works, for cleaning, storing, and caring for the same, and generally made all preparations for filling said dams with gravel.

On the 22d day of October, 1900, the resident engineer informed the claimants in writing that stone filling would be required for the dams, which required a totally different equipment from that which was required for filling with gravel. The season of high water was too close at hand to build a barge equipment, and there were no suitable steamboat or barges on the river which the claimants could charter for transportation purposes. Protests were made to the resident engineer, and to the Engineer Officer in charge of the work, and it was contended by the claimants that it was a change of plans not permitted by the specifications, especially at that stage of the progress of the work.

It was finally, on the 31st day of December, 1900, decided by the Engineer Officer in charge that 12,000 cubic yards of stone must be furnished. The claimants immediately chartered a steamer in New Orleans, the steamer "Daisy," at large additional expense; made necessary changes in their barges, so as to strengthen them to enable them to carry stone instead of gravel; brought said steamer "Daisy" from New Orleans by way of the Gulf of Mexico; leased on royalty and established a stone quarry on the Black Warrior River above Tuscaloosa, the nearest practicable point to the works—a distance of 49 miles above lock No. 6, 66 miles from lock No. 5, and 83 miles from lock No. 4—and actually transported 876 cubic yards of stone to the site of the work at lock No. 6. But on the 3d day of February, 1901, on or about her fourth trip from the quarry, said steamer "Daisy" and her tow, consisting of 160 cubic yards of stone, were swept over dam No. 2, Black Warrior River, and totally wrecked and lost, and her engineer was drowned.

Said dam No. 2 was an improvement in said Black Warrior River belonging to the United States, and was supposed to be in a complete condition for navigation, and was so represented to be. The accident occurred through the absence of proper approach protection to the lock and through no fault or negligence of the claimants, or their agents in charge of said steamer. It was impossible to secure another boat; it was too late in the season to build one, and the river, in the condition in which it was later on in the season by the time another steamer could have been secured, was not navigable.

The resident engineer insisted that the claimants must continue to bring down stone, and suggested that if there was no other way to get it there, the claimants should build a railroad, which would have cost more than the entire contract price of the locks.

The claimants continued to protest against the requirement of using stone, after the impossibility of bringing stone in the existing conditions of navigation on the Black Warrior River had been demonstrated; but on the officers of the United States continuing to insist upon the use of stone, they, on the 23d day of September, 1901, in writing requested the United States Engineer Officer in charge of construction to provide sufficient protection for navigation through the locks and dams of the Black Warrior River near Tuscaloosa.

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Upon the necessary authority being given by the War Department, protection to navigation was provided at said locks and dams, but the same was not completed until the 15th day of January, 1902; and the claimants resumed bringing down stone, until all the stone required by the orders of the Engineer Officer was brought down and used in the filling of the dams.

26 By the close of the season of navigation of 1902, to wit: by May 1, 1902, the claimants had brought down from their quarry at Tuscaloosa all the stone for the dam and riprap of lock No. 6, and all but 900 cubic yards of that required for the dam and riprap of lock No. 5. It was impracticable to bring by water any part of that required for lock and dam No. 4, for the reason that through the failure of the Government to provide gates for lock No. 5, after the claimants had completed the same about the middle of July, 1902, said lock No. 5 was not navigable. The claimants, therefore, were compelled to purchase stone in the nearest available market, Birmingham, Alabama, and bring the same by rail to the crossing of the Alabama Great Southern Railway with the Warrior River, and thence bring the same to lock and dam No. 4, with the exception of 900 cubic yards for lock and dam No. 5, which were brought to Akron, and thence by wagon to lock and dam No. 5.

The cost to the claimants of furnishing such stone filling for the dams amounted to seventeen thousand eight hundred and fifty-six dollars and fifty-three cents ($17,856.53), for which they received from the United States eight thousand one hundred and one dollars and ninety-eight cents ($8,101.98), making their loss on this account nine thousand seven hundred and fifty-four dollars and fifty-five cents ($9,754.55), whereas the gravel filling would have been put in without loss.

The claimants therefore claim on this item nine thousand seven hundred and fifty-four dollars and fifty-five cents ($9,754.55).

12. *Change from Brush Mattresses to Riprap.*

By paragraph 74 of the specifications it is provided:

"Such parts of the bank slopes as may be directed shall be protected with brush fascine mattresses. * * * Mattress work shall be built strictly according to the detail drawings."

27 Also by paragraph 75 it was provided as to riprap, after a description of the same:

"It may be substituted for all or a portion of the mattress work, at the option of the Engineer Officer."

The detail drawings referred to in said paragraph 74 were exhibited to the claimants and all other bidders at the time of making their proposal, and after the contract was awarded to them were delivered to them as the working drawings.

The fascine mattresses provided for by said paragraph 74 of the specifications, and shown by working drawings, were obtainable by cutting brush wood at or near the site of the work, and required

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no special preparation, except for a short time before they would have been needed for use on the construction.

Riprap, on the other hand, required to be brought from the same quarry named in the next preceding paragraph of this petition; and if any substitution for the fascine mattresses was desired, notice should have been given to the claimants at or shortly after the time of beginning work on the contract.

On the 22d of October, in the year 1900, the claimants were for the first time notified that riprap would be required, instead of fascine mattresses, and protested against being required at that stage of the work to substitute riprap for the fascine mattresses; but their protests were unavailing and the resident engineer, by authority of the United States Officer in charge of the work, required them to obtain and use riprap.

The said riprap stone was obtained at the same quarry as the stone filling named in the last preceding portion of this petition, and the same difficulties and delays were encountered in furnishing said riprap as have been hereinbefore set forth in regard to the stone filling.

The riprap so furnished cost the claimants twenty-three thousand three hundred and twenty-four dollars and four cents ($23,324.04), and they have received from the United States for the same
28 eight thousand eight hundred and twenty-nine dollars and fifty-nine cents ($8,829.59), making a loss of fourteen thousand four hundred and ninety-four dollars and forty-five cents ($14,494.45), whereas the brush fascine mattresses which they had expected to put in would have cost them only eight thousand two hundred and twenty-eight dollars and thirty-nine cents ($8,228.39), and they would have received for it nine thousand eight hundred and seventy-four dollars and seven cents ($9,874.07), making a profit thereon of one thousand six hundred and forty-five dollars and sixty-eight cents ($1,645.68), which, added to the loss of $14,494.45, which they actually sustained, makes the damage on this account sixteen thousand one hundred and forty dollars and thirteen cents ($16,140.13), which amount they claim.

13. *Change of Location of Lock No. 5.*

Some time after the contract had been entered into, and after he excavation on lock No. 5 had been staked out and begun, to wit: on or about the 1st day of June, 1900, the entire location of lock No. 5 was changed, by being moved forty feet further back from the river into the bank, constituting an entirely new location, increasing the amount of excavation, and requiring piles to be driven where absolutely no borings had been made. The dam at lock No. 5 was lengthened forty feet in order to reach the new location of the lock, thus increasing all the quantities entering into the construction of the dam and greatly delaying the completion of the entire work.

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14. *Other Changes.*

Many changes were also made (beside those hereinbefore set forth) in the character of the work to be done from that contained in the original drawings shown to the claimants when bidding on the work, and delivered to them as the working drawings after they had entered into the contract, some of said changes being as follows:

The cluster piles were increased and their location changed.

The finish of exposed surfaces of the concrete walls was changed from concrete to mortar finish.

The abutment masonry was not put in according to the original plans.

The wing walls of the locks were changed.

The form of the dams was changed, increasing all the quantities and bills of materials.

The lock approaches were increased.

Puddling was entirely omitted.

15. *Incompetent Inspectors.*

By paragraph 78 of the specifications, it is, among other things, provided:

"The United States will keep inspectors on the work, who will receive instructions from the resident engineer."

Among the persons appointed by the United States under this provision were a number of incompetent persons, entirely wanting in experience, who were placed in supervision of the work of competent and experienced workmen, the employees of the claimants; and whose supervision was of such an unintelligent and unreasonable character as to cause great difficulties and delays and enhanced expense in the prosecution of the work under the contract. Most of the inspectors so appointed were not skilled or experienced in the several branches of the work which they were respectively assigned to supervise. The claimants protested against the employment of unskilled and inexperienced inspectors, and repeatedly requested the resident engineer to appoint men of practical knowledge and experience of masonry, carpentry, pile driving, cement mixing, etc., to supervise those portions of the work, respectively.

But no attention was paid to the protests and complaints of the claimants in that regard, but the employment of the unskilled and inexperienced inspectors was continued.

On several occasions men of skill and experience, employed by the claimants in the prosecution of the work under the contract, resigned their positions and refused to continue at work for the claimants under said contract because of the impracticable requirements of the inspectors, and because they would not submit to supervision from men entirely lacking in skill and experience in the particular branch of work which said inspectors were set to supervise.

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16. *Completion of Work.*

Lock and dam No. 6 were completed on or about the 5th day of December, 1902, and accepted by the United States on the 29th day of December, 1902.

Lock and dam No. 5 were completed on or about the 19th day of December, 1902, and accepted by the United States on the 31st day of December, 1902.

Lock and dam No. 4 were completed on or about the 6th day of November, 1903, and accepted by the United States on the 16th day of November, 1903.

17. *Statement of Damages.*

The claimants therefore claim as follows:

For delays caused by the United States, as hereinbefore more fully set forth:

31	Increased cost of bonds	$450.00	
	Increased cost of insurance	482.09	
Maintenance and deterioration of plant		12,457.60	
Office expenses, superintendence, and travel		18,815.76	
Services of the firm		35,000.00	
Total for delays			$67,205.45
Building roads to site of work			4,946.58
Increased cost of excavation by failure of drawings of borings to show true character of material to be excavated			10,510.30
Excavating material which sloughed off into the lock pits through failure properly to ascertain angles of repose of the bank			55,978.00
Digging out forms buried in said sloughed material			1,183.41
Increased cost of driving foundation piles by failure of drawings of borings to show true character of material in which piles were to be driven, and by excessive requirements as to driving			9,104.82
Piles billed to unnecessary lengths			2,871.63
Increased cost of sheet piling for the reasons stated in last but next item above			13,455.67
Building of cofferdams for locks			11,456.91
Building of cofferdams for dams			3,783.76
Excavating through cofferdams			913.29
Change from gravel to stone filling			9,754.55
Change from brush mattresses to riprap			16,140.13
Total			$207,304.50

No other action than as aforesaid has been had on this claim in Congress or by any of the Departments.

The claimants are the sole owners of this claim and the only per-

sons interested therein; and no assignment or transfer of
32 this claim or of any part thereof or interest therein has been made.

The claimants are justly entitled to the amount herein claimed from the United States, after allowing all just credits and offsets. The claimants are citizens of the United States, and have at all times borne true allegiance to the Government thereof, and have not in any way voluntarily aided, abetted, or given encouragement to rebellion against the said Government; and the claimants believe the facts in this petition to be true.

And the claimants pray judgment for two hundred and seven thousand three hundred and four dollars and fifty cents ($207,304.50).

CHRISTIE, LOWE & HEYWORTH,
Claimants.

DUANE E. FOX,
GEORGE A. & WM. B. KING,
Attorneys for Claimants.

DISTRICT OF COLUMBIA, *ss:*

Jesse Lowe, being duly sworn, deposes and says: I am one of the claimants in this case. I have read the above petition and the matters therein stated are true, to the best of my knowledge and belief.

JESSE LOWE.

Subscribed and sworn to before me this sixth day of April, 1908.
[SEAL.] FRANK C. HALL,
Notary Public.

33 *II. Exhibits to Petition.*

EXHIBIT A.

Advertisement.

U. S. ENGINEER OFFICE,
MOBILE, ALA., December 29th, 1899.

Sealed proposals for building Locks and Dams Nos. 4, 5 and 6, Warrior River, Ala., will be received at the U. S. Engineer Office, Tuscaloosa, Ala., until 12 o'clock, noon, January 29th, 1900, and then publicly opened. Specifications, blank forms, and all available information will be furnished on application to this office, or to Assistant Engineer R. C. McCalla, Tuscaloosa, Ala.

WM. T. RUSSELL,
Major, Corps of Engrs., U. S. A.

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Specifications.

General Instructions for Bidders.

1. The attention of bidders is especially invited to the Acts of Congress approved February 26, 1885, and February 23, 1887, as printed in Vol. 23, page 332, and Vol. 24, page 414, United States Statutes at Large, which prohibit the importation of foreigners and aliens, under contract or agreement, to perform labor in the United States or Territories or the District of Columbia.

2. Preference will be given to articles or materials of domestic production, conditions of quality and price being equal, including in the price of foreign articles the duty thereon.

3. Maps of the localities may be seen at this office. Bid-
34 ders or their authorized agents, are expected to visit the place and to make their own estimates of the facilities and difficulties attending the execution of the work, including the uncertainty of weather and all other contingencies.

4. No proposal will be considered unless accompanied by a guaranty in manner and form as directed in these instructions.

5. All bids and guaranties must be made in triplicate, upon printed forms to be obtained at this office. One copy of the guaranty, if given with an individual or individuals as surety, must have an internal revenue stamp, or stamps, of the value of fifty cents affixed; if given with a guaranty company as surety, it must have, in addition to a fifty-cent stamp, a stamp or stamps denoting one-half of one cent on each dollar or fractional part thereof, paid by the principal obligor as a premium, and the amount of said premium must be certified to by the guaranty company.

6. The guaranty attached to each copy of the bid must be signed by an authorized surety company, or by two responsible guarantors, and if individuals, to be certified as good and sufficient guarantors by a Judge or clerk of United States Court, United States District Attorney, United States Commissioner, or Judge or clerk of a State court of record, with the seal of said court attached.

7. A firm as such will not be accepted as surety, nor a partner for a copartner or firm of which he is a member. Stockholders who are not officers of a corporation may be accepted as sureties for such corporation. Sureties, if individuals, must be citizens of the United States.

8. When the principal, a guarantor, or a surety, is an individual, his signature to a guaranty or bond shall have affixed to it an adhesive seal. Corporate seal will be affixed by corporations, whether principals or sureties. All signatures to proposals, guaranties, con-
tracts and bonds should be written out in full, and each
35 signature to guaranties, contracts and bonds should be attested by at least one witness, and, when practicable, by a separate witness to each signature.

9. Each guarantor, if an individual, will justify in the sum of twenty thousand dollars ($20,000) for each lock and dam bid on.

The liability of the guarantors and bidder is determined by the Act of March 3, 1883, 22 Statutes, 487, Chap. 120, and is expressed in the guaranty attached to the bid.

10. A proposal by a person who affixes to his signature the word "president," "secretary," "agent," or other designation, without disclosing his principal, is the proposal of the individual. That by a corporation should be signed with the name of the corporation, followed by the signature of the president, secretary, or other person authorized to bind it in the matter, who should file evidence of his authority to do so. That by a firm should be signed with the firm name, either by a member thereof or by its agent, giving the names of all members of the firm.

11. The place of residence of every bidder, and post-office address, with county and State, must be given after his signature.

12. All prices must be written as well as expressed in figures.

13. One copy each of the advertisement, the instructions for bidders, and the specifications, all of which can be obtained at this office on application by mail or in person, must be securely attached to each copy of the proposal and be considered as comprising a part of it.

14. Proposals must be prepared without assistance from any person employed in or belonging to the military service of the United States or employed under this office.

15. No bidder will be informed, directly or indirectly, of the name of any person intending to bid or not to bid, or to whom information in respect to proposals may have been given.

36 16. Anyone signing the proposal as the agent of another or others must file with it legal evidence of his authority to do so.

17. All blank spaces in the proposal, guaranty and bond must be filled in, and no change shall be made in the phraseology of the proposal, or addition to the items mentioned therein. Any conditions, limitations, or provisos attached to proposals will be liable to render them informal, and cause their rejection.

18. Alterations by erasure or interlineation must be explained or noted in the proposal over the signature of the bidder.

19. If a bidder wishes to withdraw his proposal, he may do so before the time fixed for the opening, without prejudice to himself, by communicating his purpose in writing to the officer who holds it, and, when reached, it shall be handed to him, or his authorized agent, unread.

20. Reasonable grounds for supposing that any bidder is interested in more than one bid for the same item will cause the rejection of all bids in which he is interested.

21. No bids received after the time set for opening of proposals will be considered.

22. The proposals and guaranties must be placed in a sealed envelope marked "Proposals for building Locks and Dams, Warrior River, Ala., to be opened January 20th, 1900," and inclosed in another sealed envelope addressed to U. S. Engineer Office, Tuscaloosa, Ala., but otherwise unmarked. It is suggested that the inner envolope be sealed with sealing wax.

23. The United States reserves the right to reject any and all bids, and to waive any informality in the bids received; also to disregard the bid of any failing bidder or contractor known as such to the Engineer Department.

24. The bidder to whom award is made will be required to enter into written contract with the United States with good and
37 approved security in an amount of Fifty Thousand Dollars ($50,000), for each and every lock and dam awarded to him, within ten (10) days after being notified of the acceptance of his proposal. One copy of the bond accompanying the contract must have internal revenue stamps affixed in the same way and to the same value as explained in paragraph 5 above.

25. The contract which the bidder and guarantors promise to enter into shall be, in its general provisions, in the form adopted and in use by the Engineer Department of the Army, blank forms of which can be inspected at this office, and will be furnished, if desired, to parties proposing to put in bids. Parties making bids are to be understood as accepting the terms and conditions contained in such form of contract.

26. The sureties, if individuals, are to make and subscribe affidavits of justification on the back of the bond to the contract, and they must jointly justify in double the amount of the penalty.

27. Bidders are invited to be present at the opening of the bids.

General Conditions.

28. A copy of this advertisement, specifications and instructions will be attached to the contract and form a part of it.

29. The contractor should, within ten days from the award of the contract, furnish the office with the post-office address to which communications should be sent.

30. Transfers of contracts, or of interests in contracts, are prohibited by law.

31. The contractor will not be allowed to take advantage of any error or omission in these specifications, as full instructions will always be given should such error or omission be discovered.

38 32. The decision of the Engineer Officer in charge as to quality and quantity shall be final.

33. It is understood and agreed that the quantities given are approximate only, and it must be understood that no claim shall be made against the United States on account of any excess or deficiency, absolute or relative, in the same. Bidders are expected to examine the drawings, and are invited to make the estimate of quantities for themselves. It is not expected that the actual quantities will vary more than ten per cent. from the estimates.

34. Payments will be made monthly, when funds are available, ten (10) per centum being retained from each payment until the total amount thus retained is equal to ten (10) per centum of the cost of completing the remainder of the contract as estimated by the Engineer Officer in charge. When this amount has been retained, no further reservations shall be made from the monthly payments.

35. Should the time for the completion of the contract be extended, all expenses for inspection and superintendence during the period of the extension, the same to be determined by the Engineer Officer in charge, shall be deducted from payments due or to become due to the contractor: Provided, however, that if the party of the first part shall, in the exercise of his discretion, because of local or State quarantine restrictions, freshets, ice, or other force or violence of the elements, allow the contractor additional time in writing as provided for in the form of contract, there shall be no deduction for the expenses for inspection and superintendence for such additional time so allowed: Provided further: that nothing in these specifications shall affect the power of the party of the first part to annul the contract as provided for in the form of contract adopted and in use by the Engineer Department of the Army.

36. The following surety companies are qualified to do business in the State of Alabama, under Chapter 282, United States
39 Statutes at Large, Fifty-third Congress, Second Session:

American Surety Co., of New York, 100 Broadway, New York, N. Y.

Fidelity and Deposit Co., of Maryland, corner Charles and Lexington, Baltimore, Md.

The American Bonding and Trust Co., of Baltimore City, Baltimore, Md.

The City Trust Safe Deposit and Surety Co., of Philadelphia, Philadelphia, Pa.

The Fidelity and Casualty Co., of New York, New York, N. Y.

The United States Fidelity and Guaranty Co., Baltimore, Md.

National Surety Co., 346 Broadway, New York, N. Y.

The Union Surety and Guaranty Co., 1428 Chestnut St., Philadelphia, Pa. (Southern District.)

Special Conditions.

37. The work to be performed under contract to be entered into and the conditions of such contract must be in accord with the Act of Congress of March 3, 1899, making appropriations for the construction, repair and preservation of certain public works on rivers and harbors, and for other puposes, which contains the following:

"Improving Warrior and Tombigbee Rivers, Alabama:

Continuing improvement of Warrior River, $220,000.

Provided, That a contract or contracts may be entered into by the Secretary of War for such materials and work as may be necessary to construct Three Locks and Dams next below Tuscaloosa, to be paid for as appropriations may from time to time be made by law, not to exceed in the aggregate $440,000, exclusive of the amount herein or heretofore appropriated."

40 38. The work must be commenced within thirty days from date of notification of approval of contract by the Chief of Engineers; and, if there is no interruption or delay caused by lack of available funds, it must be completed not later than December 31, 1901.

39. When available funds are exhausted, the contractor will be

notified and he will then have the option to continue the work as rapidly as possible under the law and contract, relying upon future appropriations for payment or suspend operations until such appropriations are actually made and available. But the contractor must notify the Engineer Officer in charge which method he will prefer at the beginning of the work, so that sufficient funds may be reserved from appropriations on hand to cover contingencies and superintendence, should he elect to continue the work in advance of the appropriations. In case of cessation or suspension of work while awaiting appropriations by Congress, the contractor shall resume work within thirty days after notification that funds are made available for payments for work under the contract.

40. General Description.—The site for Lock and Dam No. 4 is at Pickens' Bar, about 79 miles below Tuscaloosa, and 282 miles above Mobile by river, and about 5 miles by wagon road from Eutaw, the nearest railroad station (on the A. G. S. R. R.). The site for Lock and Dam No. 5 is at Log Shoal, about 63 miles below Tuscaloosa, and 298 miles above Mobile by river, and about 3 miles by wagon road from Akron, the nearest railroad station (on the A. G. S. R. R.). The site for Lock and Dam No. 6 is at Mike's Bar, about 46 miles below Tuscaloosa, and 315 miles above Mobile by river, and about 4 miles by wagon road from Powers, the nearest railroad station (on the A. G. S. R. R.). The locks will be 387½ feet long from out to out of masonry, 322 feet between quoins, and 52 feet wide in chamber. The locks and abutments will be built of
41 Portland cement concrete, and will generally rest on pile foundations. The dam will be built of timber crib work, tightly sheathed and filled with gravel or stone, and will rest on pile foundations. The work will conform generally to the drawings exhibited and to such others in explanation of details or showing modifications or plans as may be furnished from time to time during construction.

41. Contract to Include.—The contract will cover the completion of the locks, dams and abutments, ready for the gates and valves. It will include the preparation of the sites, all cofferdams, pumping and bailing, dredging and excavation, filling, concrete, piling and timber work, puddling, grading and protection of bonks; also the placing of gate anchorages and manœuvering gears, pivots, pivot plates, hollow quoins, mitre sill anchor bolts, line hooks, ladders, snubbing posts, valve frames and operating stands, cluster chains or ropes, floor valves, and all other articles mentioned in these specifications as to be furnished by the United States; which will be delivered by the United States at the nearest railroad station, and must be hauled, stored, cared for, and built into the permanent construction by the contractor without cost to the United States.

42. Materials to be Furnished.—With the exception of the articles mentioned in these specifications as to be furnished by the United States, it is understood and agreed that the contractor, under his contract prices for work in place, is to furnish and pay for all materials and everything entering into or connected with either the permanent or temporary construction, and that he is also to supply and pay for all work, skilled and otherwise, required to prepare and place

the materials and complete the work according to the drawings and specifications.

43. Tools, Machinery, Buildings, etc.—The contractor, without cost to the United States, shall furnish all appliances, such as dredges, pumps and pumping machinery, boats, tools, derricks, tramways, roads and landings, etc., and all needful temporary buildings and shops.

44. Stakes, Templets, etc.—The lines and levels for the work having been given on the ground by the Engineer Officer, the contractor must conform and keep thereto, and all stakes and benches after being placed must be kept in position by the contractor without cost to the United States. The contractor shall furnish at his own expense the stakes required to lay off the work, as well as the labor required to set and place them. He will also be required to furnish, without cost to the United States, all templets, patterns or platforms, that may be required in building, setting, or laying out any part of the work.

45. Cofferdams.—All pumping, bailing, and temporary works needed to protect the permanent work from water, during construction, shall be done by the contractor at his own expense, the cost of same to be included in his prices for concrete, timber, etc. It is probable that the sheet piling entering into permanent construction can, with proper banking and shoring, be made to serve the purpose of cofferdams, but the contractor must rely upon his own judgment in regard to this. Should additional cofferdams be needed they shall be built on plans approved by the Engineer Officer, and, where liable to interfere directly or indirectly with navigation, shall be removed when no longer needed, the building, maintaining, and removal of same to be without cost to the United States.

46. Dams.—It is probable that the dams can be built without cofferdamming, but the contractor must rely upon his own judgment in regard to this, and should cofferdams prove necessary, it is understood and agreed that they shall be furnished by the contractor without cost to the United States. The method of construction suggested is first to dredge the site of dam to a level about 6 inches below the pile heads, then drive the three rows of sheet piling continuously from one end cutting them off a sufficient distance below low water to permit the low water flow of the river to pass over them without much head, then drive the foundation piles and cut them off at grade, then build the crib work, one course at a time filled and sheathed, protecting the work, where necessary, by temporary flashboards from the water, which will continuously flow over the work in a thin sheet. The dam shall be filled with gravel or stone or both at the option of the Engineer Officer.

47. Grubbing and Clearing.—Grubbing and clearing will cover the removal from the site of all trees, bushes, stumps, logs, roots, as well as logs, stumps, and roots under water, or embedded in the bank.

48. Excavation.—All dredged or excavated materials, of whatever nature, will be classified as "Excavation." All excavations shall conform to such lines, slopes, and grades as may be given by the Engineer Officer and anything taken out beyond such given limits

will not be paid for by the United States. The price for excavation shall include the removal of the material to its place of deposit.

Excavation from the lock pit will be used for building a mound back of the lock, and that from the abutment pit and adjacent end of dam for building a similar mound back of the abutment as shown on the drawing. Excavation from the lock approaches will be used for filling behind bank wall, the surplus going into mound back of lock; but the surplus from the upper approach may be used for filling above the dam, and excavation dredged from the lower approach will be wasted below the dam; or elsewhere, as directed by the Engineer Officer. Excavation from abutment approaches will be used for filling behind abutment, the surplus going into mound back of abutment; but the surplus from upper approach may be used for filling above dam. Excavation from the foundation for dam will be used for filling under dam apron and above dam. Excavated materials shall be deposited to such lines, slopes and
44 grades as may be given by the Engineer Officer.

Materials deposited behind the lock bank wall and abutment shall be thoroughly wetted to assist settlement.

The material to be excavated, as far as known, is shown by borings, drawings of which may be seen at this office but bidders must inform and satisfy themselves as to the nature of the material. The limits of the excavation and quantities to be excavated will depend upon the ascertained angles of repose. The limits shown on the drawings and the amounts herein given are approximate, and may be greater or less as the local conditions may demand or justify.

49. Gravel Filling.—This shall consist of river pebbles as found in the bed of the river, but the sand in same shall not to exceed the quantity required to fill the voids in the pebbles, or about one-third of the total quantity of filling. The proportions of pebbles and sand, as determined by frequent tests, shall be constantly regulated by additions of clean pebbles or clean sand as required to give the proportions specified. Gravel filling will be used in the dam and underneath lock floor as shown on the drawings, and may be used elsewhere as required by the Engineer Officer. It shall be placed so as to thoroughly fill all space inside the sheathing on dam, and shall be thoroughly rammed in place under the lock floor.

50. Stone Filling.—This shall consist of hard, close-grained rock, of a kind that will not disintegrate upon exposure to the action of the water and atmosphere, weighing not less than 140 pounds per cubic foot well mixed in pieces ranging from 1 pound to 500 pounds in weight, hand packed in place, with all voids filled by washing in sand and gravel. It may be substituted all or in part for gravel filling in dam at the option of the Engineer Officer, and shall be placed so as to thoroughly fill all space inside the sheathing on dam.

45 51. Sheathing.—Curbing of rough planks and scantlings or poles, shall be used to reduce excavation as directed by the Engineer Officer, and shall be paid for as "sheathing," poles being estimated by standard log measure. It shall be left in the

excavation or taken out at the option of the Engineer Officer, and when used again shall be paid for at half price.

52. Piling.—Bills and lengths for all piles will be furnished by the Engineer Officer, but the contractor shall furnish and drive, at his own expense, test piles, wherever required, in order that the bills may be made intelligently. Sheet piling shall be jetted into place between temporary walling pieces, and shall be settled after jetting with a suitable hammer, the pile head being protected with a suitable wooden cushion timber. Their penetration shall be at least 10 feet below the bottom of walls, and in all cases satisfactory to the Engineer Officer, and they shall be sawed off as directed. Great care shall be taken to make sheet piling as tight as practicable.

Foundation and heart piles shall be protected in driving by a Cas-grain pile cap, or equivalent, and a suitable wooden cushion timber, and shall be sawed off as directed. They shall be jetted into place and settled after jetting with a 3000 pound hammer, or shall be driven with a 3000 pound hammer, operated by a friction drum driving machine, or with a 3500 pound Nasmyth steam hammer, or shall be driven by a combination of the hammer and jet methods. Their penetration shall be satisfactory to the Engineer Officer in every case, and generally, shall not exceed ½ inch from the last blow of a 3000 pound hammer falling 10 feet for foundation piles.

With all piles the height of fall of the hammer shall be regulated so as not to injure or shatter the piles, and broken, broomed, split, or misplaced piles shall be withdrawn and properly replaced.

46 53. Sheet Piling.—The sheet piling shall consist of tongued and grooved piles, framed each pile of three oak planks, the middle one dressed on two sides to proper thickness, of uniform width, and 1½ inches thickness, thoroughly fastened together with boat spikes ¼ inch by 5 inches driven through from each side and clinched, the tongue and groove being 2½ inches deep. The planks shall be sawed true and shall be perfectly sound with no loose knots. They may be of any variety of oak that will stand driving without injury.

After excavating lock and abutment pits down to water charged strata these pits will be surrounded by a line of triple lap sheet piling, and the excavations will be carried to grade inside the piling, which shall be properly braced to act as retaining wall.

54. Foundation Piles.—These shall be sound, straight piles, not less than 10 inches diameter at small end under the bark, nor more than 16 inches diameter at large end, cut from trees living and felled within a year from date of driving. They may be of long or short leaf pine, red or white cypress, tupelo gum, or any variety of oak. All bark shall be removed from the parts of the piles which are to be surrounded and enclosed by concrete.

55. Heart Piles.—These shall be sound, straight piles, not less than 10 inches diameter at small end under the bark, cut from trees living, and felled while sap was down, and within a year from adte of driving. They may be left round with the bark on to a point 2 feet below low water mark. Above this point they shall be all heart and counterhewed 12 inches by 12 inches, but the corners

may be slightly rounded to remove sap, and the plane of each face shall be continued down the face until it runs out. They may be of long leaf pine, red cypress or white oak, and shall be driven above and below the lock in guard clusters, as directed by the Engineer Officer, each cluster to be drawn tightly together and
47 bound with chain or wire rope secured by staples, and provided with line hooks, as shown by detail drawings. The chain or wire rope, staples and line hooks will be furnished by the United States, and placed by the contractor without extra pay, the cost to be included in his price for piles. These cluster piles will be about 45 feet to 50 feet long, and will be driven to about 15 feet penetration, but the same price per foot shall apply to the driven and undriven portions. These piles may be used at other places, and for other purposes, as directed by the Engineer Officer.

56. Dam Timber.—The timber in dam crib and sheathing shall be sound and sawed true, free from loose knots, carefully framed and fastened together as shown on the plans. It shall be of long leaf pine, red cypress, or white oak, and no piece shall show sap extending from any corner a greater distance than one-fourth the smaller thickness of the piece. The vertical sheathing shall be tongued and grooved and fitted in place, so as to form a sand-tight wall. The bottom layer of sloping sheathing shall be tightly fitted and thoroughly spiked in place, with no open joints, and all seams caulked with two threads of United States Navy oakum in a thorough workmanlike manner. The top layer shall then be tightly fitted and thoroughly spiked in place, breaking joints with the bottom layer, but shall not be caulked. Drift bolts, spikes, nails, crest plates, oakum, etc., shall all be included in the price bid for dam timber.

57. Apron Timber.—The timber in dam apron shall be sound and sawed true, free from loose knots, carefully framed and fastened together as shown on the plans. It shall be of long or short leaf pine, red or white cypress, or any variety of oak, and with no restrictions as to sap. The sheathing shall be tightly fitted and thoroughly spiked in place, with no open joints, the top layer breaking joints with the bottom layer, but no caulking shall be
48 required. Drift bolts, spikes, etc., shall be included in the price bid for apron timber.

58. Lock Floor.—The foundation piles under lock floor shall be capped with 10 inch by 10 inch timbers running parallel to axis of lock and thoroughly drift bolted to the pile heads. The space between these timbers and around the pile heads shall be filled with gravel filling 15 inches deep, thoroughly rammed in place, flush with tops of caps. A layer of 3 inch by 12 inch planks at right angles to the axis of lock shall then be fitted tightly in place and thoroughly spiked to the caps with no open joints, and all seams caulked with two threads of United States Navy oakum in a thorough workmanlike manner. Another layer of 2 inch by 12 inch planks parallel to axis of lock shall then be tightly fitted in place and thoroughly spiked to the 3 inch planks, but shall not be caulked.

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The timber in lock floor shall be sound and sawed true, free from loose knots, carefully framed and fastened together as shown on the plans. It shall be of long or short leaf pine, red or white cypress, or any variety of oak, with no restrictions as to sap, and will be classified and paid for as "floor timber." Floor valves will be furnished by the United States, and shall be neatly fitted and secured in place by the contractor without extra charge. Drift bolts, spikes, nails, oakum, etc., shall all be included in the price bid for floor timber.

59. All irons furnished by the contractor must be of good quality refined wrought iron, tough and fibrous, capable of being bent cold 180° on a cylinder of diameter equal to thickness or diameter of test piece, without exhibiting flaws or cracks. The cost of same shall be included in the contractors' prices for timber, piles, etc.

60. Drain pipe 8 inches in diameter shall be laid with open joints, as required along the back of lock bank wall and
49 along the back of abutment, and shall be covered with clean pebbles not less than 1 foot thick above the pipe. The pipe shall be vitrified tile, sound and free from injurious blisters or cracks, with no pieces broken from bell or spigot. The price per foot must include the pebble covering, as per section on plans, and any ells required for the necessary changes of direction. These drains may be omitted altogether at the option of the Engineer Officer.

61. Cement.—This shall be of a standard slow-setting, well-established brand of true Portland Cement, delivered in full and original packages, which shall be well coopered barrels lined with waterproof paper, containing not less than 370 pounds net, and bearing the gross weight, brand and name of manufacturer on each barrel.

The cement shall be of such fineness that 99 per cent. shall pass through a 50-mesh sieve, and not less than 87 per cent. pass through a 100-mesh sieve.

The initial set (Vicat needle 1-12 inch x ¼ pound) of the cement shall not be in less than one hour nor more than three hours. The hard set (Vicat needle 1-24 inch x 1 pound) shall not be in less than four hours nor more than ten hours.

The minimum tensile strength per square inch of briquettes exposed one day in air and afterwards in water shall be as follows:

	7 Days old	28 Days old.
Neat Briquettes	450 lbs.	540 lbs.
1 part Cement and 3 parts standard Sand by weight	140 lbs.	220 lbs.

In addition to the above requirements, the tensile strength of neat briquettes 28 days old shall be about 20 per cent. greater than the tensile strength when 7 days old.

A cement that checks or cracks when made into thin cakes and exposed to air and water at ordinary temperatures, or to water

at 212 degrees Fahrenheit for 24 hours or less will not be accepted.

50 The cement must in every respect equal *to* the best quality of Alsens White Label or Lagerdorfer. It will be subject to constant inspection and shall be kept well housed.

The use of more than one brand of cement, in a monolithic mass of concrete, is prohibited, unless specially directed in writing by the Engineer Officer.

By the "standard sand" referred to in the tests for tensile strength is meant clean, crushed quartz, screened through a No. 20 and caught on a No. 30 sieve.

62. Sand.—The sand must be clean, sharp, silicious, must be screened and washed, if required, and must be satisfactory to the Engineer Officer as to fineness and all other qualities.

63. Aggregate.—This shall consist of clean pebbles, varying in size from ¼ inch to 2 inches diameter, as found in the bed of the river. The pebbles shall be thoroughly screened and must be washed, if required by the Engineer Officer.

64. Concrete.—The proportion of ingredients of concrete shall be determined by bulk, and shall ordinarily be as follows:

One part cement as packed in barrels, 3 parts dry sand, and 6 parts pebbles, but in no concrete shall the mortar be less than 125 per cent. of voids in aggregate, as determined by water tests from time to time.

The concrete shall be mixed thoroughly by machinery, or otherwise, and to the satisfaction of the Engineer Officer in charge. The proportion of water shall be regulated from time to time so as always to cause the concrete to cohere and not to quake when rammed in place. To facilitate such regulation, telephonic communication between the mixing house and the wall shall be maintained at all times when concrete depositing is in progress.

The cement shall be taken from a batch of at least five
51 barrels, spread in layers on a clean platform, and incorporated into an uniform mixture. The aggregate shall be thoroughly drenched with water just before it is run into the mixer, the drenching to be done where surplus water will drain off freely.

65. Forming.—The forms or moulds must be held in rigid position so as to give accurately the exterior surfaces required by the plans for the work. Surfaces of forms or moulds at exposed faces of concrete shall be dressed smooth, and the edges tongued and grooved, and must give the true plane or curved surfaces required by the plans. Recesses for line hooks shall be formed by wooden or metal boxes of the required shape; curves of large radius by narrow strips supported by curved ribs; and curves of small radius by scotias and mouldings nailed in the corners. Forms or moulds shall be kept dampened when concrete or mortar is laid against them until the same shall have hardened, and shall be left in position for not less than six days after the concrete is deposited. The cost of forming must be included in the price bid for concrete.

66. Depositing Concrete.—Freshly mixed concrete and mortar only shall be placed in the work, and no concrete or mortar shall

be placed when the temperature is lower than 36° F. in the shade, nor when rain is falling on it. No concrete shall be laid in water, or exposed to the action of water, until sufficiently set, in the judgment of the Engineer Officer, after which time it shall be kept wet daily for at least three weeks or longer as required. Just before beginning a block of concrete, the foundation thereof shall be thoroughly cleaned, being swept with wire brooms and washed, and a layer ½-inch thick of 3 to 1 mortar spread thereon. Adjacent blocks shall be joined, except for 12 inches beneath the coping, by dovetails or recesses built in the ends of original pieces with feather top edge. When any block of concrete is begun the work
52 must proceed continuously until it is completed, so as to form a true monolith. The concrete must be thoroughly compacted by ramming in layers not exceeding 6 inches in thickness after ramming. The rammers used shall be of such weight and shape as is satisfactory to the Engineer Officer in charge. The operation of ramming must give a thoroughly compacted dense artificial stone of high specific gravity. When deficiency of moisture is indicated after ramming it shall be supplied by sprinkling with a fine spray of water.

All walls shall be built in separate blocks about 20 feet long, 5 to 10 feet high, and of the full width of the wall. The blocks shall be arranged in regular courses for the full length of the wall, alternate blocks being built and omitted, the gaps being afterwards filled with separate blocks; and blocks in adjacent courses, shall be superimposed so as to leave continuous vertical joints from bottom to top of wall. Any imperfect or injured blocks shall be replaced or made good by the contractor at his own expense.

67. Exterior Finish.—This shall consist of concrete, 1 part cement as packed in barrel and 2 parts dry sand, and 3 parts of gravel, shall not average less than 3 inches thick on all exposed surfaces; shall be placed in a wedge-shaped section against the forming in advance of each layer of concrete; and shall be rammed in place simultaneously with the concrete, with no defined line of demarkation between them.

Coping of the proportions of 1 part cement and 3 parts dry sand, and not less than ¾-inch thick shall be thoroughly rammed in place as a top coat on the freshly rammed concrete, and shall be finished by being rubbed smooth and hard with a float, and may be rubbed or washed or brushed with neat cement as directed, or shall receive a wet finish, at the option of the Engineer Officer.
53 The wet finish shall consist of 1 part cement and 2½ parts sand applied quite wet in a thin coat before the mortar underneath has begun to set, and raked to shape with a straight edge. It shall then be allowed to take the initial set and throw off surplus water, and then be rubbed moderately with a float. All coping shall be placed and finished by skilled sidewalk finishers, shall be covered by boards or tarpaulins until the hard set, and then be covered with a thick layer of sand which shall be kept damp for several days as required. Coping shall be slightly crowned in the centre, and finished on the edges to 3 inches radius with suitable

curved tools or formers, or to such other shape as may be directed by the Engineer Officer.

68. Steps and curbing shall be built in the slope back of the lock, and may be required in the slope of mound back of the lock. They shall be made of concrete built in place with mortar finish on exposed surfaces, in separate blocks, each composed of four steps and the adjacent curbing. Suitable forming shall be provided by the contractor for finishing the steps and curbing accurately, according to the detail drawings. As soon as the tamping is completed the forming shall be removed from the exposed faces, and these surfaces finished by floating and trowelling a thin coat of neat cement so as to give an uniform color throughout, after which all float marks shall be removed by brushing lightly with a soft white-wash brush. Steps and curbing shall be protected after completion in the same manner as specified for coping, and will be estimated and paid for as concrete.

69. Mitre Sills.—The Mitre Sills shall be selected sticks of the best quality of white oak, dressed accurately to sizes shown on drawings, with gate bearings planed perfectly smooth and true. They shall be nicely fitted to place and secured by anchor bolts as shown on drawings, and will be classified and paid for as "mitre
54 sills." These anchor bolts will be furnished by the United States, but shall be accurately set with templets and built into place by the contractor without extra charge.

70. Special Irons.—Gate anchorages and manœuvering gear, pivots, pivot plates, hollowquoins, mitre sill anchor bolts, line hooks, ladders, snubbing posts, valve frames and operating stands, cluster chains or ropes, floor valves, etc., shall be placed with special care and accuracy, as shown on the detail drawings, the contractor furnishing all templets and other appliances required to set them properly and hold them in place, without extra charge.

71. Puddling.—Puddling will be placed about the upper wing of lock and abutment. It will be heavy selected clay in 6-inch layers, wetted, thoroughly cut, worked, and rammed.

72. Concrete Paving.—The horizontal space back of the land wall of the lock, and such parts of the bank slopes as may be directed, shall be covered with paving built to proper lines and slopes on a bed of sand or gravel 6 inches thick, which shall be selected and placed from the neighboring excavation without extra charge. Paving shall be built in place, of separate concrete blocks 3 feet to 4 feet square and 6 inches thick, with mortar finish on top, and ½ to ¾ inch vertical points filled with sand. These paving blocks will be estimated and paid for as concrete.

73. Stone Paving.—This shall consist of large, sound, durable, well shaped stones, set either on bed or edge as required, with tops and joints rough pointed. Joints at top shall not exceed one inch, and projections on top shall not exceed two inches. Stone paving shall be 15 inches in depth, set to proper lines and slopes on a bed of sand or gravel 6 inches thick, which shall be selected and placed from the neighboring excavation without extra charge. These stones will be estimated and paid for as stone paving, and may be

substituted for concrete paving at the option of the Engineer Officer.

74. Mattress Work.—Such parts of the bank slopes as may be directed shall be protected with brush fascine mattresses. The fascines shall be built of live brush not more than 3 inches diameter at the butt, 15 feet in length, of uniform diameter of 12 inches, bound at the middle, and 5 feet either side of the middle, under a pressure of at least 200 pounds, with No. 12 B. W. G. galvanized steel wire wrapped twice. Half the brush shall be willow and half shall lie with butts toward either end of fascine. The fascines shall be cut off square at the ends where they butt other fascines.

Each mat shall consist of a continuous row of fascines laid closely side by side. Crosswise of these shall be laid, 9 feet apart, new live poles not less than 3 inches smaller diameter, nor less than 25 feet long, and lapping 5 feet on each other at the ends. At intervals of 5 feet these poles shall be anchored to wooden dead men, previously set 4 feet below the surface of the slope, by a ½ inch galvanized steel wire rope.

Through each alternate fascine, and not less than 2 feet from the end, shall be driven live willow stakes of not less than 2½ inches diameter. These stakes shall penetrate at least 4 feet into the ground, and near the top of each a ⅝ inch hole shall be bored, through which a ¼ inch galvanized steel wire rope shall be tightly stretched over all the fascines in the mat and made fast to every tenth stake.

Over the mattress so laid shall be thrown dry sand and gravel, ½ cubic yard to each square yard of mattress. Mattress work shall be built strictly according to the detail drawings.

75. Riprap, Hand Placed.—This shall consist of fair size, hard, durable stones, generally with one dimension of at least 15 inches, set on edge as directed. Riprap will be about 12 inches thick, shall be compactly placed by hand to proper lines and slopes, and shall have the large interstices filled by the hammer with smaller stones and spalls. It may be substituted for all or a portion of the mattress work at the option of the Engineer Officer.

76. Measurement of Work.—Concrete, gravel filling, and stone filling will be measured in place by the cubic yard with proper deductions for embedded timber.

Stone paving, riprap, and puddling will be measured in place by the cubic yard.

Excavation will be measured in excavation by the cubic yard as determined by cross sections.

Mattress work will be measured in place by the square yard.

Drain pipe will be measured in place by the linear foot.

Mitre sills, dam timber, apron timber, floor timber, and dentiling will be measured in place by the foot, board measure.

Sheet piling will be measured in place by the foot, board measure, with no deduction for pile heads cut off above grade.

Foundation and heart piles will be measured in place by the linear foot, pile heads cut off above grade to be estimated and paid for at one-third the contract price.

In estimating concrete the walls will be figured as solid without deducting for grooves, round corners, recesses, etc., except for gate and valve recesses, culvert openings, and embedded timber, which shall be deducted.

77. Quantities.—The following approximate estimate of quantities is given for the information of bidders.

		Lock No. 4.	Lock No. 5.	Lock No. 6.
Concrete	Cubic Yards	11,300	12,300	11,200
Excavation	"	140,000	45,000	76,000
Gravel Filling	"	3,900	4,400	4,000
Puddling	"	100	100	100
Mattress Work	Square Yards	6,200	3,600	5,000
Mitre Sills	Feet B. M.	4,000	4,000	4,000

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Dam Timber	Feet B. M.	155,000	171,000	155,000
Apron Timber	" "	67,000	67,000	67,000
Floor Timber	" "	112,000	112,000	112,000
Sheathing	" "	20,000	20,000	20,000
Sheet Piling	" "	275,000	270,000	275,000
Foundation Piles	Feet Linear	44,000	50,000	55,000
Heart Piles	"	2,000	2,000	2,100
Drain Pipe	"	500	500	500

Alternates.

Stone Filling	Cubic Yards	3,100	3,600	3,200
Stone Paving	"	1,150	1,650	950
Riprap, hand placed.	"	2,100	1,200	1,700

78. Inspection, etc.—The Engineer Officer shall have the power to prescribe the order and manner of executing the work in all its parts; of inspecting and rejecting materials, work and workmanship, which in his judgment do not conform to the drawings that may be furnished from time to time or to these specifications. And any material, work, or workmanship so rejected by him shall be kept out of or removed from the finished work and no estimate or payment shall be made until such material, work, or workmanship be so removed.

The United States will keep inspectors on the work, who will receive instructions from the Resident Engineer. They will have power to object to any materials, work, or workmanship. Any material, work, or workmanship objected to by the inspectors shall be kept out of or removed from the finished work, unless in each particular case the objection of the inspector shall be overruled by the local or Resident Engineer, and unless the objection be so overruled no estimate or payment shall be made until such materials, work, or workmanship be so removed. In all cases of dispute, the decision of the United States Engineer Officer in charge will be accepted as final and without appeal.

79. Modification of Contract.—The right is reserved to
58 make such minor changes in these specifications and the letting plans as may be necessary or expedient to carry out the intent of the contract, but no such modification shall be made the basis of a claim for extra compensation, unless so provided in a written supplementary agreement duly authorized and approved by the proper authorities of the War Department.

80. Any incompetent, insubordinate, disorderly or objectionable employee of the contractor shall be discharged, if required by the Engineer Officer in charge, and shall not be again employed on the work.

81. Failure to Prosecute or Protect the Works.—The contracts for the three locks will be awarded separately, or to one bidder as may be most advantageous to the United States, but in either case work on the three locks shall be begun promptly and prosecuted simultaneously so as to secure completion within the required time. Any failure to commence the work within the time specified in the contract, or to prosecute it thereafter at the rate and in the manner required, or to provide sufficient plant, or to properly protect any part of the work, permanent or temporary, will be sufficient cause to allow the United States to annul any contract made and declare a forfeiture of all reserve percentage or other dues, or, to allow the United States, at the option of the Engineer Officer in charge, to carry on the work at the expense of the contractor, and to render him and his sureties liable for any increase in cost over that proposed and agreed upon.

82. Rubbish to be Removed.—Within thirty days after completion of the work, and before the final payment is made, the contractor shall remove from the site all rubbish, old and unused material, and leave the whole in good order and condition.

83. Lighting the Work.—From sunset to sunrise the work shall be properly lighted to prevent accidents to boats navigating
59 the river. This lighting shall be done by the contractor at his own expense, and he shall be liable for any damage due to neglect in this particular.

84. The United States will not be responsible for the safety of the contractor's employees, plant or materials, nor for any damage done by or to them, from any source or cause.

85. Use of U. S. Grounds.—The contractor, during the progress of the work will have the privilege of using such portions of the Government land on both sides of the river at the site, for stone yard, temporary buildings, etc., as are not otherwise used or reserved by the United States. It is understood, however, that the contractor shall, at any time during the progress of the work, promptly vacate and clean up any part of the Government land that may have been allotted to him, or be in use by him, whenever it is needed for any purpose by the United States.

86. If the contractor, in judicious prosecution of his work, should prepare non-perishable material in advance of the proper time to put it in the work, the Engineer Officer in charge may, at his discretion, pay him for any such material, after inspection and delivery

to the United States, such portion of his contract price as the said Engineer Officer may elect.

87. Fees for Patented Inventions.—All fees for any patented invention, article, or arrangements that may be used upon or in any manner connected with the construction, erection, or maintenance of the work, or any part thereof embraced in these specifications, shall be included in the prices mentioned in the contract, and the contractor shall protect and hold harmless the United States against any and all demands for such fees or claims, and before the final payment or settlement is made on account of the contract, the contractor must furnish acceptable proof of a proper and satisfactory release from all such claims.

60 §8. Purchases Made or Work Done, not Specified.—If at any time it should become necessary, in the opinion of the Engineer Officer in charge to do any work or to make any purchases not herein specified, for the proper completion of this contract, the contractor will be required to furnish the same at the current rates existing at the time of said purchases or work. The current rates to be determined by the Engineer Officer in charge.

89. These specifications are intended to be full, clear and complete. Any doubt as to their meaning, or any obscurity in the wording of them, will be explained by the Engineer Officer, who shall also have the right to correct any errors or omissions in them whenever such errors or omissions become apparent.

90. Work on Sundays or on National holidays will not be permitted, except in cases of extraordinary emergency.

Exhibit B.

Form 19.

This agreement entered into this nineteenth day of February, nineteen hundred, between Major Wm. T. Rossell, Corps of Engineers, United States Army, of the first part, and George B. Christie, Jesse Lowe and James O. Heyworth, partners composing the firm of Christie, Lowe & Heyworth, of Chicago, in the county of Cook, State of Illinois, of the second part, Witnesseth, that, in conformity with the advertisement and specifications hereunto attached, which form a part of this contract, the said Major Wm. T. Rossell, Corps of Engineers, U. S. Army, for and in behalf of the United States of America, and the said Christie, Lowe & Heyworth, of Chicago

61 Ill., do covenant and agree to and with each other, as follows:

The party of the second part agrees to furnish the material and perform the work required in the construction of Locks and Dams numbers Four, Five and Six, Warrior River, Ala., at the following prices for material in place, excavation, and grubbing and clearing:

Concrete, per cu. yd., for No. 4, five dollars and ninety-five cents ($5.95); for No. 5 and 6, six dollars ($6.00).

Excavation, per cu. yd., for No. 4, twenty-eight cents (28c.); for No. 5, thirty-two cents (32c.); for No. 6, thirty-one cents (31c.).

Gravel filling, per cu. yd., for No. 4, 5 and 6, forty-two cents (42c.).

Puddling, per cu. yd., for No. 4, 5 and 6, sixty cents (60c.).

Mattress work, per sq. yd., for No. 4, 5 and 6, forty-eight cents (48c.).

Mitre sills, per 1,000 ft. b. m., for No. 4, 5 and 6, thirty-six dollars ($36.00).

Dam timber, per 1,000 ft. b. m., for No. 4, 5 and 6, twenty-nine dollars ($29.00).

Apron timber, per 1,000 ft. b. m., for No. 4, 5 and 6, nineteen dollars and twenty cents ($19.20).

Floor timber, per 1,000 ft. b. m., for No. 4, 5 and 6, forty dollars ($40.00).

Sheathing, per 1,000 ft. b. m., for No. 4, 5 and 6, seventeen dollars ($17.00).

Sheet piling, per 1,000 ft. b. m., for No. 4 and 5, fifty dollars ($50.00); for No. 6, forty-seven dollars ($47.00).

Foundation piles, per lin. ft., for No. 4, 5 and 6, twenty-nine cents (29c.).

Heart piles, per lin. ft., for No. 4, 5 and 6, thirty cents (30c.).

Drain pipe, per lin. ft., for No. 4, 5 and 6, fifty cents (50c.).

62 Grubbing and clearing, complete, for No. 4, 5 and 6, each, two hundred and forty dollars ($240.00).

And for alternative materials when used, as follows:

Stone filling, per cu. yd., for No. 4, 5 and 6, one dollar and fourteen cents ($1.14).

Stone paving, per cu. yd., for No. 4, 5 and 6, two dollars and seventy cents ($2.70).

Riprap, hand-placed, per cu. yd., for No. 4, 5 and 6, one dollar and twenty cents ($1.20).

The party of the first part agrees to pay to the party of the second part for furnishing materials and performing work required in the construction of Locks and Dams Numbers Four, Five and Six, Warrior River, Ala., at the rates above specified.

All materials furnished and work done under this contract, shall, before being accepted, be subject to a rigid inspection by an inspector appointed on the part of the Government, and such as do not conform to the specifications set forth in this contract shall be rejected. The decision of the engineer officer in charge as to quality and quantity shall be final.

The said Christie, Lowe & Heyworth shall commence and complete the work as required by paragraph 38 of specifications hereto attached.

If, in any event, the party of the second part shall delay or fail to commence with the delivery of the material or the performance of the work on the day specified herein, or shall, in the judgment of the engineer in charge, fail to prosecute faithfully and diligently the work in accordance with the specifications and requirements of this contract, then, in either case, the party of the first part, or his successor legally appointed, shall have power, with the sanction of

the Chief of Engineers, to annul this contract by giving notice in writing to that effect to the party (or parties, or either
63 of them) of the second part; and, upon the giving of such notice, all money or reserved percentage due or to become due to the party or parties of the second part by reason of this contract shall be and become forfeited to the United States; and the party of the first part shall be thereupon authorized, if an immediate performance of the work or delivery of the materials be in his opinion required by the public exigency, to proceed to provide for the same by open purchase or contracts, as prescribed in Section 3709 of the Revised Statutes of the United States: Provided, however, that if the party (or parties) of the second part shall by epidemics, freshets, ice, local or State quarantine restrictions, force or violence of elements, or other unavoidable cause of delay, and by no fault of his or their own, be prevented either from commencing or completing the work, or delivering the materials at the time agreed upon in this contract, such additional time may, with the prior sanction of the Chief of Engineers, be allowed him or them, in writing, for such commencement or completion as, in the judgment of the party of the first part, or his successor, shall be just and reasonable; but such allowance and extension shall in no manner affect the rights or obligations of the parties under this contract, but the same shall subsist, take effect, and be enforceable precisely as if the new date for such commencement or completion had been the date originally herein agreed upon.

If, at any time during the prosecution of the work, it be found advantageous or necessary to make any change or modification in the project, and this change or modification should involve such change in the specifications as to character and quantity, whether of labor or material, as would either increase or diminish the cost of the work, then such change or modification must be agreed upon in writing by the contracting parties, the agreement setting forth fully the reasons for such change, and giving clearly the
64 quantities and prices of both material and labor thus substituted for those named in the original contract, and before taking effect must be approved by the Secretary of War: Provided, that no payments shall be made unless such supplemental or modified agreement was signed and approved before the obligation arising from such modification was incurred.

No claim whatever shall at any time be made upon the United States by the party or parties of the second part for or on account of any extra work or material performed or furnished, or alleged to have been performed or furnished under or by virtue of this contract, and not expressly bargained for and specifically included therein, unless such extra work or materials shall have been expressly required in writing by the party of the first part or his successor, the prices and quantities thereof having been first agreed upon by the contracting parties and approved by the Chief of Engineers.

The party of the second part shall be responsible for and pay all liabilities incurred in the prosecution of the work for labor and material.

It is further understood and agreed that in case of failure on the part of the party of the second part to complete this contract as specified and agreed upon, that all sums due and percentage retained, shall thereby be forfeited to the United States, and that the said United States shall also have the right to recover any or all damages due to such failure in excess of the sums so forfeited, and also to recover from the party of the second part, as part of said damages, whatever sums may be expended by the party of the first part in completing the said contract, in excess of the price herein stipulated to be paid to the party of the second part for completing the same.

Payments shall be made to the said Christie, Lowe & Heyworth in accordance with paragraph 34 of specifications hereto attached.

65 Neither this contract nor any interest therein shall be transferred to any other party or parties, and in case of such transfer the United States may refuse to carry out this contract either with the transferor or the transferee, but all rights of action for any breach of this contract by said Christie, Lowe & Heyworth are reserved to the United States.

No member of or delegate to Congress, nor any person belonging to, or employed in, the military service of the United States, is or shall be admitted to any share or part of this contract, or to any benefit which may arise herefrom.

This contract shall be subject to approval of the Chief of Engineers, U. S. A.

In witness whereof the parties aforesaid have hereunto placed their hands the date first hereinbefore written.

Witnesses:

M. E. TISDALE, as to

WM. T. ROSSELL,
Major of Engineers, U. S. A.

J. D. BROWN, as to

CHRISTIE, LOWE & HEYWORTH,
By JESSE LOWE, *One of the Firm.*

(Executed in Quintuplicate.)

Approved Mar. 10, 1900.

JOHN M. WILSON,
Brig. Gen., Chief of Engineers, U. S. Army.

66 EXHIBIT C.

Form 19*a*.*

*(To be used when the specifications do not call for liquidated damages.)

1. This agreement entered into this twenty-ninth (29) day of April, nineteen hundred and two (1902), between Captain Spencer

Cosby, Corps of Engineers, United States Army, of the first part, and George B. Christie, Jesse Lowe, James O. Heyworth and George A. Lederle, partners composing the firm of Christie, Lowe & Heyworth, of Chicago, in the county of Cook, State of Illinois, of the second part, witnesseth, that, in conformity with the advertisement and specifications hereunto attached, which form a part of this contract, the said Captain Spencer Cosby, Corps of Engineers, U. S. Army, for and in behalf of the United States of America, and the said Christie, Lowe & Heyworth, of Chicago, Ill., do covenant and agree, to and with each other as follows:

1st. That the following paragraph shall be and hereby is substituted for paragraph 77 of the specifications attached to and forming a part of the contract between Major Wm. T. Rossell, Corps of Engineers, U. S. Army, of the first part, and Christie, Lowe & Heyworth, of Chicago, Ill., of the second part, entered into February 19, 1900, to wit:

"Quantities.—The following approximate estimate of quantities is given:

	Lock No. 4.	Lock No. 5.	Lock No. 6.
Concrete, cubic yards	11,700	12,000	11,600
Excavation, cubic yards	150,000	90,000	82,000
Gravel filling, cubic yards	3,000	3,400	3,000
Stone filling, cubic yards	2,225	3,115	2,325
Riprap, hand placed, cu. yds.	3,110	2,075	1,780
67 Puddling, cubic yards	100	100	100
Mitre sills, feet B. M.	3,700	3,700	3,700
Dam timber, feet B. M.	192,000	235,000	192,000
Apron timber, feet B. M.	66,000	75,000	66,000
Floor timber, feet B. M.	116,000	116,000	116,000
Sheathing, feet B. M.	20,000	20,000	20,000
Sheet piling, feet B. M.	319,000	342,000	320,000
Foundation piles, feet, linear	51,000	53,000	53,000
Heart piles, feet, linear	4,200	3,800	3,800
Drain pipe, feet, linear	500	500	500"

2nd. That for all excavation at Lock No. 5 in excess of forty-nine thousand five hundred (49,500) cubic yards, the sum of fifty (50) cents per cubic yard shall be paid the contractors, instead of thirty-two (32) cents per cubic yard, as provided for in the original contract. There shall be no other change in unit prices.

3rd. That the time for completion of the original contract, extended by authority of the Chief of Engineers, from December 31, 1901, to December 31, 1902, shall be and hereby is further extended from December 31, 1902, to December 31, 1903.

2. All materials furnished and work done under this contract shall, before being accepted, be subject to a rigid inspection by an inspector appointed on the part of the Government, and such as do not conform to the specifications set forth in this contract shall be rejected. The decision of the engineer officer in charge as to quality and quantity shall be final.

3. The said Christie, Lowe & Heyworth shall complete the work herein contracted for on or before December 31, 1903.

4. If, in any event, the party of the second part shall delay or fail to commence with the delivery of the material or the performance of the work on the day specified herein, or shall, in the judgment of the engineer in charge, fail to prosecute faithfully and diligently the work in accordance with the specifications and
68 requirements of this contract, then, in either case, the party of the first part, or his successor legally appointed, shall have power, with the sanction of the Chief of Engineers, to annul this contract by giving notice in writing to that effect to the party (or parties, or either of them) of the second part, and upon the giving of such notice all payments to the party or parties of the second part under this contract shall cease, and all money or reserved percentage due or to become due the said party or parties of the second part, by reason of this contract, shall be retained by the party of the first part until the final completion and acceptance of the work herein stipulated to be done; and the United States shall have the right to recover from the parties of the second part whatever sums may be expended by the party of the first part in completing the said contract in excess of the price herein stipulated to be paid the parties of the second part for completing the same, and also all costs of inspection and superintendence incurred by the said United States, in excess of those payable by the said United States during the period herein allowed for the completion of the contract by the parties of the second part; and the party of the first part may deduct all the above-mentioned sums out of or from the money or reserved percentage retained as aforesaid; and upon the giving of the said notice the party of the first part shall be authorized, if an immediate performance of the work or delivery of the materials be in his opinion required by the public exigency, to proceed to provide for the same by open purchase or contract, as prescribed in Section 3709 of the Revised Statutes of the United States: Provided, however, that if the party (or parties) of the second part shall by epidemics, freshets, ice, local or State quarantine restrictions, force or violence of elements, or other unavoidable cause of delay, and by no fault of his or their own, be prevented either from commencing or completing the work, or delivering the materials at
69 the time agreed upon in this contract, such additional time may, with the prior sanction of the Chief of Engineers, be allowed him or them, in writing, for such commencement or completion as, in the judgment of the party of the first part, or his successor, shall be just and reasonable; but such allowance and extension shall in no manner affect the rights or obligations of the parties under this contract, but the same shall subsist, take effect, and be enforceable precisely as if the new date for such commencement or completion had been the date originally herein agreed upon.

5. It is further expressly understood and agreed that in case of failure on the part of the parties of the second part to complete this contract as specified and agreed upon, the said United States

shall have the right to recover from the parties of the second part all cost of inspection and superintendence incurred by the said United States during the period of delay, and also whatever sums may be expended by the party of the first part in completing the said contract in excess of the price herein stipulated to be paid to the parties of the second part for completing the same. And the said party of the first part may deduct or retain all the above-mentioned sums out of or from any money or reserve percentage that may be due or become due the parties of the second part under this agreement.

6. If, at any time during the prosecution of the work, it be found advantageous or necessary to make any change or modification in the project, and this change or modification should involve such change in the specifications as to character and quantity, whether of labor or material, as would either increase or diminish the cost of the work, then such change or modification must be agreed upon in writing by the contracting parties, the agreement setting forth fully the reasons for such change, and giving clearly the quantities and prices of both material and labor thus substituted for those named in the original contract, and before taking effect must be approved by the Secretary of War: Provided, that no payments shall be made unless such supplemental or modified agreement was signed and approved before the obligation arising from such modification was incurred.

7. No claim whatever shall at any time be made upon the United States by the party or parties of the second part for or on account of any extra work or material performed or furnished, or alleged to have been performed or furnished under or by virtue of this contract, and not expressly bargained for and specifically included therein, unless such extra work or materials shall have been expressly required in writing by the party of the first part or his successor, the prices and quantities thereof having been first agreed upon by the contracting parties and approved by the Chief of Engineers.

8. The party of the second part shall be responsible for and pay all liabilities incurred in the prosecution of the work for labor and material.

9. It is further agreed by and between the parties hereto that until final inspection and acceptance of, and payment for, all of the material and work herein provided for, no prior inspection, payment, or act is to be construed as a waiver of the right of the party of the first part to reject any defectivve work or material or to require the fulfillment of any of the terms of the contract.

10. The party of the second part further agrees to hold and save the United States harmless from and against all and every demand, or demands, of any nature or kind for, or on account of, the use of any patented invention, article, or process included in the materials hereby agreed to be furnished and work to be done under this contract.

11. Payments shall be made to the said Christie, Lowe & Heyworth as provided for in the original contract.

71 12. Neither this contract nor any interest therein shall be transferred to any other party or parties, and in case of such transfer the United States may refuse to carry out this contract either with the transferrer or the transferee, but all rights of action for any breach of this contract by said Christie, Lowe & Heyworth, are reserved to the United States.

13. No Member of or Delegate to Congress, nor any person belonging to, or employed in, the military service of the United States, is or shall be admitted to any share or part of this contract, or to any benefit which may arise herefrom.

14. This contract shall be subject to approval of the Chief of Engineers, U. S. A.

In witness whereof the parties aforesaid have hereunto placed their hands the date first hereinbefore written.

Witnesses:

F. A. HAPPER, as to
SPENCER COSBY,
Captain, Corps of Engineers.

CHRISTIE, LOWE & HEYWORTH.

M. H. BIDEZ, as to
GEORGE B. CHRISTIE.

M. P. JEMISON, as to
JESSE LOWE.

WM. S. OSGOOD, as to
GEORGE A. LEDERLE.

GEORGE W. GRAHAM, as to
JAMES O. HEYWORTH.

[Executed in Quintuplicate.]

[Endorsed.]

May 22, 1902.

Approved:

G. L. GILLESPIE,
Brig. Gen., Chief of Engineers, U. S. Army.

[2nd Indorsement.]

WAR DEPARTMENT, June 2, 1902.

Approved:

WM. CARY SANGER,
Acting Secretary of War.

72 III. *Traverse.*

(Filed May 2, 1911.)

In the Court of Claims of the United States.

No. 24693.

GEORGE B. CHRISTIE, JESSE LOWE, and JAMES O. HEYWORTH, Surviving Partners of the Firm of Christie, Lowe & Heyworth,
v.
THE UNITED STATES.

And now comes the Attorney-General, on behalf of the United States, and, answering the petition of the claimants herein, denies each and every allegation therein contained, and asks judgment that the petition be dismissed.

JOHN Q. THOMPSON,
Assistant Attorney-General.

IV. *Argument and Submission.*

This case was argued on the second, third, and fourth days of May, 1911, by Mr. George A. King for the claimants, and by Mr. F. De C. Faust for defendants, and submitted.

73 V. *Findings of Fact and Conclusion of Law.*

Court of Claims of the United States.

No. 24693.

(Decided April 7, 1913.)

GEORGE B. CHRISTIE, JESSE LOWE, and JAMES O. HEYWORTH, Surviving Partners of the Firm of Christie, Lowe & Heyworth,
v.
THE UNITED STATES.

This case having been heard by the Court of Claims, the court, upon the evidence, makes the following

Findings of Fact.

I.

On December 20, 1899, Maj. William T. Rossell, Corps of Engineers, United States Army, by authority of the Secretary of War, advertised for sealed proposals for building Locks and Dams Nos. 4, 5, and 6, Warrior River, Ala. A copy of said advertisement, with

the accompanying specifications, is annexed to the petition herein, marked "Exhibit A."

On or about January 1, 1900, George B. Christie and James O. Heyworth, two members of the claimant firm, visited Tuscaloosa, Ala., and applied to Ass't Engineer R. C. McCalla, the official named in the advertisement, for information upon which to prepare a bid for the proposed work. Said McCalla showed them a set of plans and specifications and went with them by railroad to Powers Station, from which point they drove to the site of Lock and Dam No. 6 and offered to take them to the sites of Locks 4 and 5, but they did not go. After remaining five days at Tuscaloosa securing information upon which to prepare their bid, Mr. Heyworth returned to Chicago and Mr. Christie proceeded elsewhere on other business. A bid for the proposed work was subsequently prepared at Chicago by Mr. Heyworth and Jesse Lowe, another member of the claimant firm, whose knowledge of the facilities and difficulties attending the construction of the work was derived from the results of the investigations made by Christie and Heyworth and a general knowledge he had of the Warrior River.

Claimants submitted a proposal in writing within the time limited by said advertisement, which proposal was accepted. In said proposal claimants stated that it was made in accordance with the advertisement of December 20, 1899, and subject to all the conditions and requirements of the specifications and will a full knowl-
74 edge of the kind, quantity, and quality, of the articles required. Thereafter, to wit, on February 19, 1900, claimants entered into a contract with the United States, acting by said Maj. William T. Rossell, Corps of Engineers, United States Army, for the construction of said Locks and Dams Nos. 4, 5, and 6, Warrior River, Ala., which was approved by the Chief of Engineers, United States Army, on March 10, 1900. A copy of said contract is annexed to the petition, marked "Exhibit B."

On April 29, 1902, a supplemental contract was made with the United States which was duly approved by the Chief of Engineers and by the Secretary of War. A copy of said supplemental contract is annexed to the petition, marked "Exhibit C."

At the beginning of the work under said contract Maj. William T. Rossell, Corps of Engineers, United States Army, was the United States engineer officer in charge named in paragraph 78 of the specifications and so remained until September 9, 1901, when he was succeeded by Capt. Spencer Cosby, who remained until March 14, 1903, when he was succeeded by Capt. William E. Craighill, Corps of Engineers, United States Army, who remained thereafter until the close of work under the contract the United States engineer officer in charge. The office of said engineer officer was throughout the work under the contract in the city of Mobile, Ala.

At the beginning of and throughout the work under the contract R. C. McCalla, a civilian engineer employed by the United States, having his office at Tuscaloosa, Ala., was the local engineer, called in paragraph 78 of the specifications the resident engineer.

Upon application of claimants in writing under date of February 9, 1901, on account of freshets, floods, and epidemics of fever and

malaria among the employees and those whom but for said epidemics might have been employed during the working season of 1900, the time for the completion of the contract was extended for one year to December 31, 1902, without the deductions provided in paragraph 35 of the specifications.

On March 12, 1902, claimants again made written application for a further extension of time to December 31, 1903, on account of freshets and floods, which was granted and embodied in said supplemental contract of April 29, 1902, and the prescribed deductions remitted. Locks and Dams Nos. 5 and 6 were completed by claimants and accepted by the United States in December, 1902, and Lock and Dam No. 4 was completed and accepted in like manner in November, 1903.

Other causes which made an extension of the time for the completion of the contract necessary were scarcity and difficulty of procuring labor by claimants during the second, third, and fourth years of the contract; delay in notifying the contractor that more would be required in place of sand and gravel; changes in the quantities of stone required as hereinafter set forth, which change did not finally increase the quantity above that called for by the contract; increased quantity of excavation at Lock No. 5 as per supplemental contract, and delay in securing title to the land.

Besides the cost of superintendence and inspection during the periods covered by said extensions of the contract, the United States paid for the removal of material that sloughed or was deposited in the pits during said extension, which it would not have had to pay for had the work been completed as originally required by the contract. The amount so paid is not shown.

75 II.

Delays in Permitting Commencement of Work.

On March 12, 1900, the engineer officer in charge notified the claimants in writing that their contract had been approved by the Chief of Engineers, and called their attention to the requirements of paragraph 28 of the specifications. Claimants received said letter March 14, 1900, at Chicago, Ill., and thereupon proceeded to purchase machinery and plant, and made contracts for cement. James Lowe, a member of claimants' firm, arrived at Tuscaloosa on March 25, 1900, to commence work, and established headquarters there.

Upon arrival at Tuscaloosa he began assembling the plant and the construction of pile drivers, as well as dredges, for the purpose of getting out sand and gravel, and barges to be used in the transportation of such sand and gravel. Claimants constructed storehouses at the railway stations nearest the sites of the respective locks, started to build houses at the locks to house their men, made all preliminary arrangements, employed superintendents for the locks and the clerical force, bought commissary supplies, and in other respects made all preparations necessary for the vigorous prosecution of the work under the contract, and for practical pur-

ers were ready to begin actual work within a month from the date of Lowe's arrival at Tanalian.

The heights of the banks of the Warrior River in their natural state above low water at the three respective sites of the work were: Lock 6, 30 feet, minimum, 11 feet; Lock 7, 30 feet, minimum, 62 feet; Lock 8, 39.2 feet, minimum, 45.2 feet.

When Mr. Lowe arrived at Tanalian the Warrior River was in a state of flood, the gauge at that point registering 37 feet above low water. On April 20 the water had fallen 10 feet on the same gauge, but rose again in nine days to a height of 32 feet, thereafter gradually receding until 21 feet was registered on May 1 and 7 feet on May 16.

On April 28, 1900, at which time the river was at a 25-foot stage, claimants applied orally and in writing to the resident engineer to have stakes set for clearing and excavating the sites of the locks and dismounts at the three locks, as well as to have the corners located at said locks, and supplemented the request by letter of April 30, 1900, to neither of which was any written reply received by claimants. The resident engineer informed claimants orally that the Government did not have the right of way.

Thereafter stakes were set and excavation began as follows:

Lock No. 6, for clearing, May 9; for excavation, May 16; excavation began May 29, 1900.

Lock No. 7, for clearing, May 10; for excavation, May 16; excavation began, May 22, 1900.

Owing to a defect in the title to the tract on which Lock No. 8 was located, claimants were not permitted to begin work at that lock until June 14, 1900, upon which date stakes for clearing were set, and stakes for excavation on July 16, and the work of excavation was begun August 14, 1900.

On June 1, 1900, another flood occurred on the Warrior River, the gauge at Tanalian showing 8 feet above low water on June 2, 10 feet above on June 8, 12 feet on June 11, 20 feet on June 25, and 12 feet above low water July 10. The result of this rise was to flood the lock pits at Locks 7 and 8 from June 6 to July 18, 1900.

Between May 10 and 31, 1900, claimants moved 750 cubic yards at Lock 7, and between June 1 and 10, 250 yards, and excavation thereon was then suspended until July 18. From July 18 to 30, after the river receded, claimants excavated 1,000 cubic yards at Lock 7.

At Lock 6, 1,205 yards of mud was moved in May, and 1,000 yards up to June 20, when all excavation was suspended until July 21, 1900. After the river fell below the 15-foot stage claimants moved from July 21 to 30 1,000 yards and desire the quantity during the following 10 days.

On July 5, 1900, claimants made written application to the resident engineer for excavation stakes for the dismounts at the three locks. Said resident engineer and the engineer officer in charge refused to authorize claimants to begin the excavation for the dismounts during the season of 1900, because in their judgment the

abutment walls could not be built sufficiently high during that season to protect the banks from caving by the action of the winter and spring floods. Claimants protested in writing against this decision to the resident engineer. Said stakes were set and the excavation for the abutments at Locks 4 and 6 was authorized May 16, 1901.

Owing to lack of title authority to commence work on the abutment of Lock 5 was not granted until October 28, 1901, after several written requests by claimants for such authority to the resident engineer and the engineer officer.

The delays which occurred in the commencement of the work after April 24, 1900, when claimants first asked that stakes be set, were caused partly by the refusal of the Government officers to set stakes as requested in said letters of April 24 and July 3, 1900, and partly by floods and freshets in the Warrior River. The delay in setting the stakes or clearing and excavation at Lock 4 at the same time stakes were set at the other locks was due to a defect in the title to the land for said lock, for which the claimants were in no way responsible.

The delay in permitting the commencement of the excavation on the abutment at Lock 5 from May 6, 1901, when excavation was permitted on the abutments at Locks 4 and 6, to October 28, 1901, was due solely to the United States not having procured title to the land.

By reason of the delays for which the Government was exclusively responsible claimants suffered damage to the amount of $9,391.57.

III.

Construction of Wagon Roads.

The road over which claimants Christie and Heyworth drove to Lock 6 as stated in finding I was a fair country dirt road This road and the roads referred to in paragraph 40 of the specifications were not public roads, but plantation roads over private property and no right of way existed over same for the United States or the contractors. The said roads had been previously used by the Government surveying parties in traveling between the lock sites and the railroad stations named in paragraph 40, without
77 objection from the owners. Said resident engineer stated to claimants Christie and Heyworth that the roads to all three of the locks were open to the public and could be used by the contractors for this work. It does not appear that said officer knew said roads were not public roads.

After claimants entered into the contract they discovered that said wagon roads were unimproved wagon or plantation roads and not public roads, and they found it necessary to obtain and did obtain from private owners the right of way over lands from Akron and Powers stations named in paragraph 40 to the sites of Locks 5 and 6.

The owner of some of the land between Lock 4 and Eutaw station refused to grant a right of way on any terms and the right of way was obtained from Mays station on a railroad on the opposite side of the river from Eutaw Station.

The roads to said lock sites were constructed through heavy timber and swamps, many bridges were built over ravines, and the roads graded and corduroyed and repaired generally. Said roads were necessary for the work.

The cost to the contractors for the repair and building of roads and bridges which the contractors used—that is, the plantation roads—necessary to carry on the work was $2,283.80 for the roads, and $2,662.78 for the bridges, making a total of $4,946.58. How much of this amount was for repairs only does not appear. The amount which claimants had to pay for right of way on account of the refusal of one of the owners to permit the use of his private road was $100. The evidence does not establish the amount paid for the repair and construction of the road they had to buy.

The letting plans exhibited to all bidders showed on which side of the river each lock was located and did not show any public roads leading to the lock sites.

IV.

Erroneous and Deceptive Borings.

The borings, the drawings whereof are referred to in paragraph 48 of the specifications, were made by a field party sent out from Tuscaloosa by the United States, and were made for the primary purpose of ascertaining the availability of sites for said locks and dams and to determine what kind of a foundation whether rock or pile would be necessary; that is to say, the borings were made to ascertain whether the sites selected for the locks were underlaid with rock or other suitable strata upon which all structures could be directly built or whether it would be necessary to drive piles in order to secure suitable and stable foundations. The party was divided into two sections, each in charge of a foreman under the immediate supervision of an engineer employed by the United States, acting under the directions of the resident engineer and the engineer officer in charge. The work occupied said boring party from July 12 to November 8, 1899. The ground was staked out for such borings at distances from 50 to 68 feet apart, about half way between the lines where the plans required the outer walls of the structure and the sheet walls to be driven. The borings were made with a water jet forced down through 1-inch pipe, joined together on the outside by a sleeve or coupling, and coming up between the 1-inch pipe and the outer casing of 2-inch pipe, and constantly bringing up samples of the materials penetrated.

78 The record of the different material or strata, as well as the thickness and depth at which it was found in making such boring, was kept in separate books by each foreman under instructions at the beginning of the work from the engineer in local

charge to make full and complete notes, giving the minutest detail of everything encountered, which instructions were not modified in any respect throughout the progress of the work. At the end of each day's work, or soon thereafter, the engineer in local charge calculated from the foremen's notes the correct elevations of the various strata with reference to Mobile datum, which is the datum upon which all surveys and the whole work of improvement of the river, including the drawings and plans for this contract, were based, and the figures were copied into two other books from which the drawings named in paragraph 48 were afterwards plotted.

The drill when being driven down into the ground would sometimes meets obstructions which from the particles broken off and floating to the surface would indicate that they might be logs. These obstructions though in some instances noted in the original notebooks of the foremen, were not transferred to the drawings and do not appear thereon. When such obstructions were met, the apparatus was moved elsewhere until a place was found where the drill would penetrate, and the result was recorded as if taken at the place staked out. The boring sheets referred to in paragraph 48 of the specifications contained only the record of completed borings and do not show any record of sunken logs, or of cemented sand and gravel, or conglomerate impenetrable by the drill. In the foremen's notebooks there were 16 entries recorded which relate to borings for foundations under structures, no record of which or the material encountered was copied by the engineer in local charge into the permanent field books from which said boring sheets were plotted. The foremen's record of said uncompleted borings contains no positive information that a sunken log was struck, and in only 3 of the borings at each of Locks 5 and 6 is there probable indication that logs may have been encountered.

These notes were omitted from the permanent records in some cases because they were made for the convenince and information of the officer in charge to let him know what had been done and because the information had no bearing on the data of the borings themselves; in other cases they were omitted because they related to the manner and time required to bore through the material and could not be shown on the boring sheets; again they were omitted because on another page was an entry of what appeared to be the same notes showing a complete boring at the same station which was transferred to the permanent records; other notes indicate that the men were unable to complete the boring on account of the loss of the bit, or on account of some mishap to the boring apparatus, or some foreign substance being encountered.

The existence of any indication of such buried logs at the time the borings were being made was called to the attention of the resident engineer by the engineer in local charge of the boring parties, and when asked if logs were to be noted in the record of borings, the resident engineer said that he did not consider the logs, as the boring sheets then indicated, of enough importance to be noted, and same were not noted.

79 When the boring sheets were inspected by Messrs. Christie and Heyworth on their first visit to the engineer's office at Tuscaloosa they found no record thereon of sunken logs, and although they admitted they had reason to and did expect to encounter some logs, they made no inquiry or independent investigation as to the probable existence of embedded logs or drift in the material to be excavated, nor did they inquire or attempt to ascertain by what method said borings had been made or the time expended in making them. Many partially submerged and embedded logs and stumps were in plain sight on the banks and the bars of this river where the locks were located, and the fact was well known that logs were there.

Borings such as these are generally made by the owner of the works to be constructed and show truly and fully the existence of all material met, including objects imbedded in the soil, such as logs or stumps, and the definite location of the boring actually made.

When the work under this contract came to be done claimants found the materials were more difficult and expensive to penetrate and excavate than ordinary sand, gravel, or clay, such as described or named in said drawings. The buried logs, found beneath the surface of the earth as aforesaid, were not described or named in the drawings.

The evidence does not establish to the satisfaction of the court that said statement by the resident engineer was other than an honest expression of his opinion as to the necessity for noting of logs in the record, nor that it was made for the purpose of inducing said engineer in local charge, or any other employee of the United States to omit from the records of the borings any logs actually encountered, nor for the purpose of concealing the existence of logs from or of misleading subsequent bidders.

The engineer officer of the United States had no knowledge of the expressed opinion of the resident engineer regarding the noting of anything indicating the presence of logs, nor did said engineer officer or resident engineer have any knowledge that any uncompleted borings had been taken, or that any borings had been taken at a point other than that indicated on the drawings.

The Warrior River is an alluvial stream, the banks of which below Tuscaloosa are largely covered with heavy timber and undergrowth. Above and below the sites selected for these locks and between the cities of Tuscaloosa and Demopolis the river is unusually tortuous and flows in a series of sharp bends. Its fluctuations between low water in summer and high water in winter and early spring range from less than 1 foot to more than 70 feet. In its flood stages the river overflows its banks and spreads out over the adjacent country from 2 to 5 miles. At high water large quantities of drift are carried by the stream, and in some cases large trees.

For upward of 20 years prior to December 20, 1899, the United States had operated snag boats between Tuscaloosa and Demopolis, on this river, for the removal of stumps and sunken logs from the channel, and trees and other material known as "slip ins" which had caved in from the banks, full descriptions of which, with tables

of numbers and statements of cost, were published annually in the reports of the Chief of Engineers.

The additional expense and value of said excavation, over and above what it would have been if the boring sheets had represented the character of the ground with respect to logs, was $6,150.

80 V.

Angles of Repose.

At the outset of the work, by direction of Col. Rossell, engineer officer, the slopes of all temporary excavation at the lock sites were staked out on an angle of 1 on 1, or 45° from horizontal. This angle was adopted and prescribed by the engineer officer as the result of experience derived from work previously done by him on this river, and because it was the angle in general use on the Mississippi River for the slopes of temporary excavation. It was the expectation of said engineer officer when the slopes were staked out that the excavation could be completed, the foundations put in, and the masonry bank walls of the lock structures erected to such heights before the arrival of the winter floods that the stability of the banks would not be important.

Col. Rossell and Col. Cosby, his successor, construed the terms "angle of repose," as used in the specifications, to mean the angle or slope at which the material would stand the ordinary wear and tear of the weather under normal conditions for sufficient time to allow the work to be done for which the excavation was made.

The letting plans did not show the slopes of the excavation. The original cross-section sheets, from which the quantities of excavation had been calculated, showed in pencil the different angles of all slopes substantially at 1 on 1 behind structures for temporary work and a flatter slope of 1 on 1½ to 1 on 2, which was carried out during the work, for all permanent work, and were on file in the Tuscaloosa office; and although not made part of the letting plans, said sheets were open to examination of bidders prior to submitting proposals, and were, in fact, examined by at least one of the prospective bidders.

Claimants made no attempt to verify or estimate for themselves prior to submitting their bid the approximate quantities of excavation submitted by the Government, nor did they make any inquiry concerning the method by which said approximation had been reached.

During every working season, with few exceptions, at least one rise in the river occurs which affects the stability of the slope of the bank and causes it to slough, and during every year there are liable to be more frequent rises.

The conditions actually encountered during the working seasons of 1900 and 1901 were abnormal. During each of said seasons the work under the contract was hindered by a series of floods, freshets, and unlooked-for rises of the Warrior River, more numerous and of greater height and longer duration than theretofore disclosed by the official records of the engineer's office relating to said river.

The angle of 1 on 1 prescribed by the engineer officer was an angle at which the banks would stand for the time necessary to complete the work when not submerged from rises in the river or when in a dry condition.

There was no angle or slope which could have been adopted by which the banks would remain stable when subjected to such rises of the river as were liable to happen in times of flood.

To have sloped the banks to a flatter angle would have reduced the sloughing, but the evidence does not show to what extent.

81 When the river rose the material in the banks became saturated and heavy with water, and as the river receded such material, being deprived of the support afforded by the water while up, sloughed or caved off into the lock pits below, where it had to be and was removed by claimants in a wet and slimy condition at a higher cost than if excavated from its natural position in the bank.

The slopes of the excavation were not flattened by the engineer officers because, in their opinion, there was no practical angle at which the banks could have been sloped which would have caused them to remain stable under the abnormal conditions to which they were subjected, or have prevented the banks from sloughing and caving as the floods and rises in the river receded.

In July, 1900, prior to a time when any sloughing had occurred, claimants in a letter to the resident engineer suggested the use of sheathing to protect the slopes. On March 24, 1902, when the work on excavation of the bank walls had been completed, claimants wrote to the engineer officer complaining that the Government had not adopted sheathing for the protection of the slopes, as provided in paragraph 51 of the specifications. This use of sheathing under paragraph 51 of the specifications for the protection of the slopes was not permitted by the engineer officer for the reason that the sheathing provided for in said paragraph was not intended to protect the slopes but to reduce excavation.

Claimants made verbal protests and complaints to the resident engineer in regard to the adoption of flatter slopes. It does not appear that any written protest or objection was made by claimants throughout the progress of the work concerning the angle pescribed for the excavation and no appeal was taken from the decision of the engineer officers respecting same; neither did they request or demand any additional compensation for the removal of the material sloughed or caved in from the banks, except as hereinafter stated.

A portion of the material found in the excavated lock pits after the river subsided consisted of deposits of sediment or silt, which was carried in suspension by the river in large quantities while in flood and deposited wherever the velocity of the current was checked by any cause, as was the case at the lock pits.

The amount of material which sloughed from the banks at the several locks as the result of rises in the river, together with the deposits of sediment or silt carried in suspension by the river while in flood and deposited in the lock pits as aforesaid, all of which was excavated by claimants from the place where it lay in the lock pits,

and paid for at contract rates, was found by engineers appointed by stipulation of the parties for that purpose to be 55,978 cubic yards. Of this amount, 45,000 cubic yards was material which sloughed from the banks at said locks as the result of rises in the river. The reasonable cost of the removal of said 45,000 cubic yards over and above the contract price which was paid to claimants is $1 per cubic yard, or $45,000.

In addition to the foregoing, claimants excavated 879 cubic yards of material at Locks 5 and 6 under which were buried certain timber frames erected and used by them as concrete forms the reasonable cost of which was $1.50 per cubic yard for 168 yards at Lock 5 and $1.31 per cubic yard for 711 yards at Lock 6, or $1,183.41. The engineer officer refused to allow payment for such additional
82 excavation under paragraph 84 of the specifications, against which decision claimants protested. Said excavation was done voluntarily by claimants for the purpose of recovering the forms to be reused by them.

VI.

Increased Difficulty in Pile Driving and the Item of Sheet Piling.

In addition to a sandy soil underlaid by thick and heavy beds of gravel, the following material, which indicated in some places easy driving and in others hard driving, was shown on the drawings: Hard sand, very hard sand (white, red, and blue in color), sand and gravel, hard sand and gravel, very hard sand and gravel, sand and blue clay, closely packed sand and coarse gravel, sandstone, and rock.

Many of the sheet piles could not be driven to the desired penetration on account of buried logs and other obstructions, and in the effort to do this the time of driving said piles was greatly increased.

Other causes which tended to increase the time and difficulty of the pile driving were: (1) Much sickness amongst the pile-driving crews; (2) during the first season claimants drove both classes of piles through heavy beds of gravel without the use of a water jet; (3) afterwards when jets were used there were times when the pressure of the jets was not strong enough to properly carry on the work; (4) the dimensions and materials of the sheet piles were such that they could not be given as long and as hard a blow as the foundation piles, and a number of shorter blows were found to be necessary; and (5) the most serious delay and difficulty was caused by the nature of the material found in the abutment of Lock 5, extending over two-thirds of the area of the abutment and out for upward of 50 feet under the dam, which material was classified on the boring sheet as hard clay and shown to be underlaid by hard white sand, very hard white sand, soft sandstone, white and blue clay, and clay. It was found impossible to penetrate this material, and it was necessary to build that part of the abutment structure directly on said clay.

It appears that none of the pile-driving force of the contractors

had ever before had any experience in driving continuous lines of water-tight sheet piles.

The pile driving was in charge of competent and experienced United States engineers, and at all times during the construction there were at least two competent and experienced junior engineers or inspectors qualified for local charge of the work, and the inspection of the pile driving appears to have been fair and in accordance with the specifications. Said engineers and inspectors were assisted at each lock by 3 or 4 inspectors or recorders with practical experience who had been selected through civil-service rules or were student engineers or graduates of engineering schools. Inexperienced recorders were sometimes used to assist in the work, but were not placed in responsible positions until they had acquired some experience, and then only under the close supervision and direction of competent superiors.

Claimants protested verbally, but made no written protest that the requirements of the Government inspectors were unreasonable or that they exceeded the specifications in any particular.

83 Nor does it appear that the engineer officer was ever called upon or refused to modify the requirements of the inspectors in charge of the pile driving. It is shown that said engineer officer witnessed the driving of pile which was being driven too hard and was badly bruised and split, and that he immediately gave orders to the inspectors not to allow such hard driving at any of the locks. This was done as a matter of precaution to the work.

The contractors were notified from time to time that if they were not satisfied with the manner in which the work was being carried on or with the decisions of the inspectors they should immediately bring the matter to the attention of the engineer officer in writing and that their complaints would receive prompt attention. Claimants did not comply with this request, and on several occasions the engineer officer remonstrated with them for not doing so when they referred to some old matter of complaint which had not before been brought to his attention.

In making the closures in the dam at Lock 4 in the fall of 1902 the current scoured out the bed of the river to a depth of 20 feet. The penetration of the sheet piles at that point was 22 feet in what appeared to be tough clay. The head of water when the closure was made was only 2 feet and after the completion of the dam the material below scoured out in places to a depth of 27 feet, considerably below the bottom of the sheet piles in the adjacent structures, to save which considerable rock and stone was dumped along the face of the lock wall and the abutment face below the dam. The same thing occurred under an 18-inch head of water when the closing piles for the upper row in the dam at Lock 6 were being driven and the round piles supporting the pile driver gave away, dropping the driver to the bottom of the river.

The total cost of driving the foundation piles was $18,209.65 and of driving the sheet piles $26,911.23. How much of this cost was due to the presence of buried logs encountered in making the orig-

inal borings but not shown on the permanent records is not definitely shown by the evidence.

VII.

Piles Billed Too Long.

On June 27, 1900, before the excavation had been completed and before the contractors were prepared to drive test piles, as required by paragraph 52 of the specifications, claimants were authorized to deliver certain foundation piles of specified lengths, to wit, 25 feet at Lock 4, 30 feet at Lock 5, and 34 feet at Lock 6, and on January 26, 1901, a complete bill of piles of shorter lengths was furnished the claimants. The lengths shown in said complete bill were necessary for the work and no written protest or complaint as to lengths was thereafter made by the contractors, nor were the engineer officers ever requested to alter the lengths therein specified.

Long piles were used for the abutments because they had to be driven from the top of the abutment pits, which were too small to admit the pile drivers, instead of using a follower, and the piles delivered before the test piles were driven were used for that
84 purpose. The material found at other places than where the test piles were driven was much harder to penetrate. Under paragraph 76 of the specifications the pile heads of the foundation piles cut off above grade were paid for at one-third of the contract price. An average of about 30 per cent of the round foundation piles had to be cut off.

The cost to claimants of all the foundation piles for the work was $14,358.17. Two-thirds of 30 per cent of this amount would be $2,871.63.

VIII.

Cofferdams.

At the time of the visit of George B. Christie and James O. Heyworth, of claimants' firm, to Tuscaloosa, as set forth in Finding I, certain hydrographs, showing the gauge readings of the Warrior River, taken at Tuscaloosa, were shown to them by the resident engineer. The slope of the river in the vicinity of Tuscaloosa is such that floods pass off rapidly at that place, while on the flatter reaches of the river, such as at the locations of Locks 4, 5, and 6, during the heavy winter and spring floods the duration of the floods is several days longer than at Tuscaloosa. During the working months, from May to December, the duration of the floods was substantially the same at both places.

For about three years prior to the entering into this contract the Engineer Department of the Army maintained gauges at three points in close proximity to the site of each of the locks, to wit, Grays Landing, Alabama Great Southern Railway bridge, and Millwood, distant 43, 73, and 101 miles, respectively, below Tuscaloosa, on the Warrior River, and daily reports of the readings of the gauge

at these points had been made to the United States engineer's office at Tuscaloosa by persons employed by the Government for that purpose. Said readings had not been platted on a hydrograph, but had been copied by the resident engineer into two small memorandum books which were kept in the office at Tuscaloosa, and were there at the time of said visit of Christie and Heyworth.

These readings were not shown to either of said claimants at the time of said visit, and they made no attempt, by inquiry or otherwise, except by inspecting the hydrograph of the Tuscaloosa gauge, to investigate or ascertain for themselves the fluctuations of the river below Tuscaloosa in closer proximity to the sites of the proposed work.

The readings of said three lower gauges covering the period prior to the advertisement of proposals for this work followed closely the readings of the Tuscaloosa gauge, except that the fluctuations of the river at Tuscaloosa during the season of high water is from 10 to 25 per cent higher than at either of the lower gauges, and during the working season the duration of all rises, as shown by the Tuscaloosa and lower guages, is substantially the same. It does not appear that said readings at the three lower guages, if examined by claimants at the time of their said visit, would have influenced their bid.

In order that the work might be continued during the winter the engineer officer, through the resident engineer, on November 17, 1900, directed claimants to build cofferdams at Locks 4, 5, and 6, in accordance with plans furnished them, and informed
85 claimants that they would be paid for same at their contract price for sheet piles, and $3 per thousand feet board measure for such parts of these cofferdams as they might be required to remove when no longer needed. This order was accepted by claimants in writing November 18, 1900, and they thereupon ordered the materials for same. Three days after the receipt of said order to build the cofferdams and before the work of construction thereunder had commenced the Warrior River rose to and remained at such a height that it was not possible to build the cofferdams during that winter.

At the beginning of the next working season said engineer officer notified claimants by letter, dated May 4, 1901, that he was in doubt as to his authority to pay for the cofferdams ordered November 17, 1900, as the emergency for which they were intended to provide, namely, the prosecution of construction during the winter, had passed by. Claimants protested in writing against this course of the engineer officer, who thereupon referred the whole question to the Chief of Engineers for decision, and he referred same to the Secretary of War. The Secretary of War referred the matter to the Judge Advocate General of the Army for an opinion, and that officer decided that the Secretary of War had no legal authority to modify the contract so as to provide that the contractors should be paid for this work, which view was approved by the Secretary of War and the claimants were notified accordingly.

Claimants after examining said hydrographs showing the gauge

readings at Tuscaloosa allowed $2,000 for cofferdams for each of the three locks, or in all $6,000, in figuring on their bid.

The cofferdams were afterwards constructed by the claimants to the heights necessary to protect the work against floods. The total cost of the cofferdams for the locks was $11,456.91, of which amount the portion necessary to protect the work against a rise of more than 8 feet was $8,520.24, no part of which has been paid by the United States, and if claimants are entitled to recover therefor on quantum meruit or otherwise, there would be due $8,520.24.

IX.

Excavation Through Cofferdams.

The cofferdams for the lock work referred to in Finding VIII were built across the area where the dam was to be built. They had to be removed before the dams could be built, and in that respect they would have been an interference with navigation had they not been removed. The earth used in said cofferdams had been paid for as excavation at the full contract price. In the construction of the dams said earth had to be again excavated and removed, payment for which was refused by the engineer officer, on the ground that the decision in regard to cofferdams, referred to in Finding VIII, covered this item.

The amount of said excavation and the value thereof at contract prices is as follows: Lock 4, 533 cubic yards at 28 cents per cubic yard, $149.24; Lock 5, 1,091 cubic yards at 50 cents per cubic yard, $545.50; Lock 6, 705 cubic yards at 31 cents per cubic yard, $218.55; a total of nine hundred and thirteen dollars and twenty-nine cents ($913.29).

86

X.

Stone Filling for Dams and Riprap for Banks.

The drawings of the work referred to in the specifications, paragraphs 40, 46, 49, and 50, which were prepared under the direction of the engineer officer and exhibited to prospective bidders at the Tuscaloosa office, contained the words on the cross-section of each dam "filled with sand and gravel," and showed fascine mattresses as described and shown in paragraphs 74, 75, and 77 of the specifications.

Claimants in making up their proposal did not consider the possibility of the substitution of stone by the engineer officer as an alternative material, either for filling the dams or for protecting the bank slopes, as provided by paragraphs 46, 50, and 75 of the specifications, and their bid to furnish the stone at the figures named in the contract was made without expectation upon their part that stone would be used in the work.

Soon after the arrival of Mr. Jesse Lowe at Tuscaloosa and his commencement of the work under the contract the officers of the

United States in charge of the work delivered to him, as the representative of the contractors, as the working plans upon which they were to proceed with the construction, a copy of the same drawings which were shown to his associates when they were preparing to bid on the work. Claimants thereupon prepared a plant for raising gravel from the bed of the river, where it could be obtained in immediate proximity to the works, said plant consisting of a suction dredge complete and barges on which to transport the sand and gravel from the points at which it was obtained to the site of the dam, and arranged to obtain brush from the country in the vicinity of the works.

In a written communication from the resident engineer, dated October 22, 1900, claimants were authorized to deliver a total of 7,290 cubic yards of riprap and 11,590 cubic yards of stone filling for the three locks in quantities therein specified, which was the first official written notice received by claimants after the contract was signed, that stone would be used for dam filling and for the protection of the banks. They had made no preparation up to that time for the use of stone filling or riprap.

The use of stone filling necessitated a change in the form of the dams, which change was agreed to by claimants.

December 20, 1900, claimants replied by letter, addressed to the resident engineer, calling attention to the fact that the total quantities of stone thus called for were in excess of the quantity originally scheduled for the work, which was 14,900 cubic yards, and stated that they did not find it practical to get that amount of stone to the work during one season of navigation, the high-water stage. They also directed attention to the fact that the quantities of stone therein specified contained an item of "riprap back of lock," 150 cubic yards back of each lock, which was not in the original plans, and stated:

"We do not, in view of the experience of the past season, where we have contended against epidemics and conditions other than those your specifications represented to exist, take kindly to the idea of having changes from original plans made that will prolong
87 the work. We think that, under the circumstances, with a view of possibly completing the work the coming year, you will be justified in making a decrease of the stone quantities, returning in whole or in part to the original materials, and we respectfully request a reconsideration of the matter."

After further efforts on the part of claimants to have the quantity of stone reduced, on December 31, 1900, the engineer officer decided that 12,000 cubic yards was the minimum amount of stone that could be accepted under the contract; that it was to be understood that the contractors should use all diligence to deliver a larger quantity at the locks, and that if they did not succeed in finishing the locks the following year he would then expect them to bring down the full amount needed during the high water of 1901-2.

Claimants thereupon strengthened their barges for hauling stone, and brought a steamer called the Daisy from New Orleans for the work, and began towing stone from a quarry situated above Tuscaloosa. On February 3, 1901, they had delivered 923 cubic yards at

Lock 6. On said date the Daisy and her tow were swept over Dam No. 2 in the Black Warrior River and wrecked.

Claimants found it impossible to secure another steamer and it was too late to build one that season, and all further attempts to deliver stone were thereupon suspended.

Claimants, on January 23, 1902, resumed bringing stone down the river and continued to bring it down until the close of high water, about May 1, 1902, at which time they had brought down from their quarry above Tuscaloosa all the stone required for the dam and riprap at Lock 6 and all but 900 cubic yards required at Lock 5. No stone had been brought down for Lock 4 up to this time.

Revised plans for the dams were prepared by direction of the engineer officer and submitted to claimants January 30, 1902. Claimants informed said engineer officer that in their opinion the proposed changes of plans for the dams and dam filling could not be made without an agreement approved by the Secretary of War and other additional prices for the rock filling and the dam timber required by said revised plans.

Subsequently, on February 20, 1902, after consideration of all the questions involved, the engineer officer modified the requirements for the substitution of stone in whole for gravel filling in the dams and submitted an outline of the proposed changes as modified in a letter to claimants of that date. Claimants notified said officer that the changes indicated were acceptable to them, and on April 1, 1902, they were furnished revised plans for the dams and lock protection, which they also informed said officer were satisfactory to them. Thereafter the supplemental agreement of April 29, 1902, referred to in Finding I was executed.

The plant prepared by claimants at the beginning of the work for preparing sand and gravel would have been necessary in any event to supply materials for making the concrete of which all structures were built whether the contractors had been specifically informed when the contract was signed or not that stone would be required in accordance with their proposal and agreement.

At no time throughout the progress of the work did the claimants protest in writing against or appeal from the decision of the
60 engineer officer authorizing the use of stone for filling the dams or protecting the banks.

Owing to the lock gates not having been completed by the Government before the end of the working season of 1902, claimants were compelled to abandon their quarry at Tuscaloosa and to obtain the balance of the stone for Lock 5 and all the stone for Lock 4 at another quarry near Birmingham, Ala., at an increased expense. The stone for Lock 6 had to be brought by rail to the crossing of the Alabama Great Southern Railway with the Warrior River, placed on barges, and towed from the point down the river to the site of Lock 6, and the stone for Lock 5 was hauled by rail to Akron, and thence through the swamps to Lock 5.

The total quantity of stone placed by claimants at the three locks was: For dam filling, 6,337 cubic yards, and for riprap, 4,053.33 cubic yards, aggregating 10,390.33 cubic yards.

The actual cost to claimants of furnishing all the stone filling for the piers as aforesaid amounted to $17,208.50. They received from the United States for such filling $9,031.50, making a loss on this account of $8,176.50. The gravel filling would have been got in by them without loss.

The stone to furnished cost the claimants $25,240.00, and they received from the United States for same $9,031.50, making a loss of $16,208.50. By the use of brush fascine mattresses instead of stone stone claimants would have made a profit of $1,031.50.

Conclusion of Law.

Upon the foregoing findings of fact the court decides as a conclusion of law that the claimants are entitled to recover of and from the United States on Finding II nine thousand nine hundred and ninety-one dollars and fifty-seven cents ($9,991.57), and one cent, and dollars on Finding III, making a total of nine thousand nine hundred and ninety-one dollars and fifty-seven cents ($9,991.57).

VI. *Opinion of the Court and Dissenting Opinion.*

Court of Claims of the United States.

No. 34899.

(Decided April 7, 1913.)

Oliver B. Gunnell, Jesse Lewis and Clara O. Hathaway, Partners, Composing the Firm of Gunnell, Lewis & Hathaway,

v.

The United States.

On the Proofs.

The subject matter of this action is a contract for building locks and dams on the Warrior River in Alabama. [Case as a matter-cause of action set up in the case. Issue raised by the respondent officers. Relief sought by the Government and having an equitable title to a dis. opposite pursuant to obtaining and re-pairing readiness to the use of the locks, preventing the re-moval of obstructions at the time above the contractor had for the work. Requesting the said dams for embankments, excavation made necessary by defendant engineers for and allowed and paid for, extraordinary expense caused by the engineers to the work, necessary and unreasonably hostile on the contractor in the building of embankment, requiring more filling given the engineer. Findings for the claimants to believe that only gravel filling would be required.

I. By the law of Alabama (about the mode of taking oath), the testimony of a party to interest is not admissible as to the

alleged statements of a deceased person. By the law of the United States, act 3d March, 1887 (24 Stat. L., p. 505), all claimants in this court are made competent witnesses in their own behalf without qualification. The law of the United States is paramount, and parties in this court may testify though inhibited from so doing by State law.

II. Where the engineer in charge, in a season of extraordinary freshets, refused to allow the work of excavation to begin because in his judgment the abutment walls could not be built sufficiently high during that season to prevent the banks from caving, and there was no such mistake in this decision as to imply bad faith, it must be regarded as conclusive under a contract which provided that the decision of the engineer in prescribing the order and manner of executing the work should be final, even though the contractor objected and protested at the time and made repeated requests at successive times.

III. Where the contractors were prohibited from beginning work by the defendants' engineers because the Government had not acquired title to the site, the contractor was entitled to a corresponding extension of time and to whatever damages may have been directly caused by the delay.

IV. Where there is no right of way, the contractor may purchase one and charge the Government with the cost thereof.

V. Where a public roadway exists, the contractor can not charge the Government with the cost of keeping it in repair. But where the road is a private right of way, and the contractor, if he uses it, is charged for its use by the owner, or owners, the amount paid to such owner or owners for the use of the road is a proper charge against the Government.

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VI. Borings made by the defendants' engineer officer for their own use and information do not relieve the contractor from his contractual obligation to examine the site and ascertain the difficulties of the situation for himself. The fact that borings referred to in the defendants' specifications showed no obstructions, where obstructions in fact had been found, does not shift the responsibility if the engineers acted in good faith and with no intent to mislead the contractor when he made his bid.

VII. Where the records of the engineer's office were open to the contractor, an engineer was not bound to inform a bidder of difficulties appearing in the files of the office; and where there was no intent to deceive, a contractor cannot be relieved from the obligation of his contract because he encounters substances more difficult to excavate than anything he was led to expect from an examination of the plans and reports which he examined. The authorities examined.

VIII. Where there is no specific agreement as to the angle at which the sides or slopes of excavation shall be made, and the engineers direct that they be "1 on 1," i. e., 45 degrees, which

proves to be sufficient for a dry season but too steep for times of freshet and overflow, the defendants can not be held liable for the mistake if the contractor acquiesced without objection or appeal; and where the contractor proposed to sheath the slopes with boards against expected freshets and the local engineer refused to order it because it was not so provided in the contract, and the contractor acquiesced, the defendants can not be made liable for resulting injury. Where the letting plans did not show the slopes of the banks but the original cross-section sheets from which the quantities of excavation had been calculated showed the different angles for both temporary and permanent work and these cross-section sheets were open to examination by bidders prior to submitting proposals, it was the privilege of the contractors to examine for themselves. And if the contractors made no estimate of the approximate quantities of excavation necessary nor made inquiry concerning the method by which the angles of repose were fixed by the engineers, the defendants can not be held liable for the amount of excavation necessary according to the angles as designated by the cross-section sheets.

IX. The defendants can not be held liable for excavation voluntarily made, the purpose being to recover timber forms buried by a freshet to be reused in the contract work.

X. Where the planting of piles is difficult and uncertain work, and the contractor follows the directions of the local engineer without objection and without appeal to the engineer in charge, the defendants can not be held liable for expenses which might have been avoided; and where the piles which the contractor was obliged to furnish were of such a length as to involve him in needless expense, he can not recover if he made no objection and neglected to request the engineer officers to change the length specified.

XI. Where the specifications of a contract are explicit in requiring that the contractor shall furnish all cofferdams needed, and he is required to build cofferdams costing more than $11,000 when he had computed that the cost would be only about $6,000, he can not recover for the excessive cost, unless there appears in the requirements of the engineer officer fraud or mistake so gross as to imply bad faith; neither can he recover in quantum meruit for cofferdams which he was required to build to protect permanent work from floods during construction; nor can the engineer order the building of such dams as extra work where the specifications require the contractor to furnish all cofferdams required.

XII. Where cofferdams for the protection of lock work were built by direction of the engineers across the area where a permanent dam was to be built, so that the earth of which the cofferdams were composed would have to be subsequently excavated and removed, it can not be paid for as excavation and the removal must be at the cost of the contractor, where the cofferdams in any way formed an obstruction to navigation.

XIII. Where descriptive words, "filled with sand and gravel," on cross sections of plans exhibited to bidders when they made their bids, led the contractor to believe that the filling of the dam would be sand and gravel, yet if the contract provided "for gravel filling, per cubic yard, 42 cents," and "for stone filling per cubic yard, $1.14," it gave the defendants an option; and their engineers could compel the contractor to do the work with stone filling, notwithstanding the fact that expensive preparations had been made to do the work with gravel, and that the change would involve the contractor in delay and loss.

91 *Opinion.*

HOWRY, Judge, delivered the opinion of the court.

Plaintiffs are contractors residing and doing business in Chicago, but carrying on extensive contracting work throughout the country.

For the consideration of $440,000 they, on March 10, 1900, entered into a contract in writing with the United States for continuing the improvement of the Warrior River, in the State of Alabama, for the purpose of securing a navigable depth of 6 feet of water from Mobile to Birmingham. The improvements called for by this contract were in addition to $220,000 theretofore appropriated and expended for the same purpose.

Advertisements for sealed proposals for building Locks and Dams Nos. 4, 5, and 6 on this river were published stating the requirements of the Government in the specifications. Plaintiffs made a proposal in writing on the specifications which described that the dam should be built of timber cribwork, tightly sheathed, and filled with gravel or stone and to rest on pile foundations. The work was to conform generally to drawings exhibited and to such others in explanation of details or showing modifications of plans as might be furnished from time to time during construction. (Par. 10, Spec.)

The specifications provided that maps of the localities might be seen at the office of the United States engineer at Tuscaloosa, Ala., until January 20, 1900. Bidders, were notified that they were expected to visit the premises and to make their own estimates of the facilities and difficulties attending execution of the work, including the uncertainty of weather and other contingencies. (Par. 3, Spec.)

By paragraph 33 it was provided that the quantities of material called for and necessary for the work were approximate only, and that no claim should be made against the United States on account of any excess or deficiency, absolute or relative. Bidders were told that they were expected to examine the drawings and invited to make the estimates of quantities for themselves, though they were informed that it was not expected that the actual quantities would vary more than 10 per cent from the estimates.

The work was to begin 30 days from date of notification of approval of the contract, and completed not later than December 31, 1901.

Two members of the contracting firm visited Tuscaloosa to secure information upon which to prepare their bid. They drove to the site of one of the locks and dams and, being satisfied, declined to visit the site of the other two locks and returned to Tuscaloosa, which was on the river and not greatly distant from the site of the locks.

The contract provided that:

"The engineer officer shall have the power to prescribe the order and manner of executing the work in all its parts; of inspecting and rejecting materials, work, and workmanship, which in his judgment do not conform to the drawings that may be furnished from time to time, or to these specifications. Any material, work, or workmanship so rejected by him shall be kept out of or removed from the finished work, and no estimate or payment shall be made until such material, work, or workmanship be so removed. * * * In all cases of dispute the decision of the engineer officer in charge will be accepted as final and without appeal." (Par. 78.)

92 The right was reserved to make minor changes in the specifications and letting plans, but no modifications were to be made the basis of claims for extras unless so provided by written supplementary agreement.

The specifications were stated to be intended to be "full, clear, and complete"; any doubt as to their meaning or obscurity in the wording was to be explained by the engineer officer, who reserved the right to correct any errors or omissions as such became apparent.

Plaintiffs encountered difficulties. Warrior River is an alluvial stream, and its fluctuations between low water in summer and high water in winter and early spring ranges from less than 1 foot to more than 70 feet. In flood stages the river overflows its banks and spreads out over the adjacent country from 2 to 5 miles. On account of freshets, floods and epidemics of fever and malaria during the working season of the year that the contract was let, and the scarcity and difficulty of procuring labor during the second, third, and fourth years of the contract, the time for the completion of the work was extended on application of the contractors on March 18, 1901, to December 31, 1902, without the deductions provided for by the specifications.

Again, on March 12, 1902, there was a further extension of time upon written application from the contractors to December 31, 1903. The causes were embodied in a supplemental contract dated April 29, 1902, and the prescribed deductions for expected failure to complete were remitted.

Locks and Dams Nos. 5 and 6 were completed by plaintiffs and accepted by the United States in December, 1902, and Lock and Dam No. 4 was completed and accepted in like manner in November, 1903. Embraced in the settlement for all work done by the contrators were sums amounting to $469,144.37 which included extras, in addition to the contract price originally named.

But plaintiffs allege that there were other causes which made an extension of the time for the completion of the contract necessary, such as delay in notifying the contractors that stone would be required in place of sand and gravel; changes in the quantities of stone

required; increased quantity of excavation at one of the locks under the supplemental contract; and delay in securing title to the land where an abutment was to be erected at one of the locks. The breaches alleged to have arisen may be summarized, viz: (1) From delays and causes just stated; (2) from untrue and misleading statements of fact contained in the specifications charged to have been known by certain subordinate officers; (3) from unauthorized changes in the plans and specifications; and (4) from the appointment of incompetent inspectors, whose supervision of the work was alleged to have been unintelligent and unreasonable.

The record is voluminous with pleading, testimony and exhibit, statement and argument. Supplemental to three large volumes of printed matter there are photographs and maps, account books and tables relating to excavations and embankments, and much matter in manuscript. The court discovers important testimony not in the printed record and does not understand why, under the order to print, any testimony of importance should have been omitted from the printed volumes. But after careful investigation the
93 court has made the findings which must determine whether they support the conclusions.

The second finding disposes of the contentions respecting delays in permitting commencement of the work. By the finding it is shown that between the conditions caused by floods in the river and the delays caused by the Government the delay did not rest wholly upon one side to the controversy. Thus, when one of the contractors arrived to begin the work the river was in such a state of flood that the gauge registered 37 feet above low water at Tuscaloosa; on April 10 the water had fallen 10 feet, but rose again in 9 days to a height of 66 feet, gradually receding until 21 feet was registered the 1st of May. On April 24, 1900, the river was at a 40-foot stage, and, though the contractors wanted the stakes set for clearing and excavating the sites of the locks and abutments, it is manifest that the Government could not immediately comply.

But there was a defect in the title to the tract on which one of the locks was located. Plaintiffs were not permitted to begin work there until June 14, 1900, at which time the stakes for clearing were set and stakes for excavation were so fixed as to permit excavation work to begin August 14, 1900. But after the subsidence of the waters on [illegible], 1900, to 7 feet, another flood occurred. On June 1, 1900, the gauge at Tuscaloosa showed 4 feet above low water, but 38 feet above low water on June 9, while on June 15 the gauge read 15 feet. On June 25 the gauge disclosed 58 feet above low water. The result of this rise was to flood two of the lock pits from June 6 to July 14, 1900, about which time the exhibit of the gauge showed 12 feet above low water. July 3, 1900, both resident engineer and the chief engineer officer refused on the application of the plaintiffs to authorize excavation work for the abutments during the season of 1900, assigning as a reason that the abutment walls could not be built sufficiently high during that season to protect the banks from caving by the action of the winter and spring floods. Though plaintiffs protested against this decision the stakes were not set and

excavation work for the abutments was not authorized until May 16, 1901, at two of the locks.

There was no such mistake in this decision of the engineer officers as to imply bad faith. By the contract the parties had agreed that the decision of the engineer officer in prescribing the order and manner of executing the work including excavations should be final.

But there was a lack of title where Lock 5 was situate so that authority to commence work on the abutment provided to be placed there was not granted until October 28, 1901, after several written requests on the part of plaintiffs to be permitted to begin work there had been refused.

Under the most liberal view the court has been able to take of the dispute between the parties respecting the beginning of the work we have not been able to find that the damage to plaintiff exceeded the sum of $9,391.57.

The third finding raises a question as to the right of plaintiffs to recover from the United States $4,946.58 for moneys expended for the repair and construction of roads and bridges.

On the first hearing judgment was rendered for the above amount with the announcement from the bench by this writer that
94 he doubted the liability of the Government but would consider the item on the rehearing.

The roads referred to in paragraph 40 of the specifications were not public roads but plantation wagon roads over private property. But these roads had been previously used by surveying parties without objection from the owners. After plaintiffs had entered into the contract they found it necessary to purchase the right of way over the lands from the stations to the sites of the locks. One of the owners of some of the land, where there was refusal to grant a right of way on any terms, refused the use of his road, thereby creating the necessity on the part of plaintiffs to obtain the right of way from another station on the railroad so as to give access to one of the locks. All the roads to the lock sites were constructed through heavy timber and swamps.

The allegation in the petition "that no wagon roads whatever existed" can not be accepted as true.

The specifications described the sites as distant a certain number of "miles by wagon road." Then there was a requirement that the contractors were to haul certain articles from railroad stations to the sites. (Pars. 40 and 41.)

Government officers knew nothing relating to the matter of private ownership of these plantation roads except as it is alleged and proven that the resident engineer stated to two of the plaintiffs that the roads to all three of the locks were open to the public and could be used by contractors. Defendants object to this statement of the resident engineer as incompetent because of the death of this engineer before he could be called as a witness and the interest of the parties in undertaking to testify to what this deceased agent of the Government had in his lifetime said to them about the roads.

By the law of Alabama (where this cause of action arose) the testimony of a party in interest is not admissible as to alleged state-

ments of a deceased person. Defendants submit that this is peculiarly so while the deceased was acting as the agent of the United States, sec. 4007, Ala. Code. But we think the testimony is admissible for what it is worth, because by the act of March 3, 1887, 24 Stat. L., 505 commonly known as the Tucker Act, all claimants in this court were made competent witnesses in their own behalf without qualification. In Hobbs v. McLean, 177 U. S., 579, it was held that where Congress had made no exception in qualifying parties as witnesses the court could make none.

While the letting plans exhibited to these contractors set forth clearly on which side of the river each lock was located and did not show any public roads leading to the lock sites, the court is of opinion that in view of all the testimony, including that statement in the specifications describing the sites as distant a certain number of miles by "wagon road," that the contractors should be reimbursed for the amount they had to pay to private owners for the use of these roads. The amount which plaintiffs had to pay for obtaining a road on account of the refusal of one of the owners to permit the use of the owner's private road was $100.

But manifestly the Government can not be made to bear any part of the expense incurred by plaintiffs incident to the repair of these wagon roads (or, for that matter, any roads afterwards used,) except as to that road which they had to obtain elsewhere after the refusal of one of the owners of a plantation road to permit
95 the use of the particular road so owned by him. The evidence does not establish that for this road any sum was paid. One of the roads leading down to the lock sites was traveled over by two of these contractors while preparing their bid on the work and the resident engineer offered to take them over the roads to the other locks. They had knowledge of the condition of these roads and the means of access to those points where they were to do the work. Independent of that they were told by the advertisement that they were expected to visit the premises and to make their own estimates of the facilities and difficulties attending the execution of the work, including the uncertainty of weather "and other contingencies."

Around the fourth finding, which involves an alleged expense for additional excavation, there is controversy. Plaintiffs say that the boring sheets shown to bidders contained no record of any impenetrable material and that when the boring sheets came to be inspected by the contractors in preparation for bidding for the work they found no record of sunken logs or of cemented sand and gravel or conglomerate impenetrable by the drill such as would have altered materially the prospective difficulty and cost of doing the work.

Paragraph 48 of the specifications provided that—

"The material to be excavated, as far as known, is shown by borings, drawings of which may be seen at this office, but bidders must inform and satisfy themselves as to the nature of the material."

The borings and drawings referred to in the specifications were made by a field party the year before the contract was let for the

distinct and primary purpose of ascertaining the availability of sites for the locks and dams proposed to be constructed and to determine what kind of a foundation would be necessary. These borings were made with reference to whether the sites to be selected were underlaid with rock or other suitable strata upon which the structures could be built or whether it would be necessary to drive piles in order to secure solid foundations. The borings were made with a water jet forced down through 1-inch pipe so joined together as to constantly bring up samples of the materials penetrated.

The record of the different material and the thickness and depth at which this material was found was kept in different books by each foreman with instructions to make full and complete notes. The engineer in local charge calculated very soon after each day's work from the notes so taken the correct elevations of the various strata with reference to datum upon which all surveys of the whole work of improvement, including drawings and plans for the contract, were based, and the figures were copied into two other books from which the drawings named in paragraph 48 were afterward plotted. Sometimes obstructions would be met when the drill was driven down into the ground. These obstructions, though in some instances noted in the original notebooks of the foreman, were not transferred to the drawings and do not appear thereon. As obstructions were met the apparatus was moved elsewhere until a place was found where the drill would penetrate. The boring sheets referred to in the specification contained only the record of completed borings and did not show any record of sunken logs or of cemented sand and gravel or conglomerate impenetrable by the drill. There were 16 entries recorded in the notebooks relating to borings for foundations under structures. The borings were never com-
96 pleted. The foreman's records contained no positive information that a sunken log was struck and at only three of the borings at two of the locks is there probable indication that logs may have been encountered.

As the entire purpose was to determine whether it would be necessary to drive piles to secure stable foundations, the resident engineer did not consider the indication of logs of enough importance to be noted and the same were not noted. The contract specifications provided for piles to be driven.

Neither the engineer officer nor resident engineer had any knowledge that any uncompleted borings had been taken or that any borings had been taken at a point other than that indicated on the drawings. The engineer officer who, on the part of the United States, made the contract with the plaintiffs had no knowledge of the opinion of the resident engineer regarding the unimportance of noting anything indicating the presence of logs.

The finding also shows that for 20 years prior to the making of the contract the Government had operated snag boats on this river for the removal of stumps and sunken logs, trees, and other material from the channel and that the numbers of logs, trees, and stumps were noted and statements of cost of this work were published annually by authority of law.

If on the finding there is liability on the part of the defendants to the contractors the judgment should be $6,150.

In considering liability on this item we must eliminate fraud such as would form the basis of an action for deceit. In Farrar v. Churchill, 135 U. S., 165, it was said that where a purchaser investigates for himself and nothing is done to prevent his investigation from being as full as he chooses he can not say that he relied on the vendor's representations.

Expressions of opinion, judgment, or belief, if honestly entertained, are not representations of fact, and although subsequently shown to be erroneous or even false do not amount to fraud and can not be treated as such either for the purpose of maintaining actions for deceit or actions growing out of contracts at law or in equity.

The primary object of the borings not being to explore for the benefit of future unknown bidders, and the exact character of the material thereafter to be excavated from the bed of the river having been made solely for the purpose of enabling the engineer officers to determine the character of foundations advisable to adopt, the court is unable to award judgment for plaintiffs for any amount on this item for more particular reasons now to be stated.

There were 16 entries in the foremen's notes relating to borings for foundations not copied in the permanent field books. There is not one entry which contains positive information that a single log was struck in making the borings. Of the whole number of the foremen's uncopied entries only three afford probable indication that logs might be encountered.

Embedded logs in a river like that which the contractors undertook to improve are of frequent occurrence. That they should be looked for even though the boring sheets might fail to disclose them goes without saying. Especially is this true in view of the statement that bidders were required to "inform and satisfy themselves as to the nature of the material" in the bed of the river.

97 Official reports duly published by authority of law disclosed that preceding June 30, 1897, there had been removed from the bed of the stream below Tuscaloosa over 20,000 snags and stumps; 500 sunken logs; logs on banks cut up, 1,339; trees trimmed, deadened, felled and cut up, 18,168; and "slip-ins" removed, 908.

Paragraph 47 of the specifications provided that the contractors should remove all logs, stumps and roots under water or embedded in the bank. Paragraph 48 provided for the excavation of all dredged or excavated materials of whatever nature, and there appears a provision that the material to be excavated, as far as known, was shown by borings, drawings of which might be seen at the office of the engineer. The evidence does not establish, to the satisfaction of the court, that the statement made by the resident engineer to the local engineer in charge with respect to the unimportance of noting the presence of the few logs discovered the year preceding was other than an honest expression of the resident engineer's opinion as to the necessity for it, nor that said statement was made for the purpose of inducing the engineer in local charge or any other em-

ployee of the Government to omit from the record of the borings the notes indicating the presence of logs at the two locks, nor for the purpose of concealing the existence of hard substances beneath the surface of the river, or in any way misleading subsequent bidders. This part of the fourth finding is objected to by the contractors for the apparent purpose of having the court draw a conclusion of fraud with an intent to deceive future bidders, or for the appellate court itself (on the single statement) to reach a conclusion that there was an intention to deceive and that such statement actually did deceive.

Considering the circumstances and time of this statement of the resident engineer, the court is of opinion that the Government is entitled to the finding as made, just as much as the contractors themselves would be entitled to a finding of mistake so great as to imply bad faith on the isolated testimony of any other agent of the Government where bad faith could more clearly be implied.

But we must look to the circumstances and all the evidence to determine whether this direction as to the unimportance of noting anything to indicate the presence of logs was the result of "fraud or of such gross mistake as would imply a fraud" under the rule declared in Martinsburg v. March, 114 U. S., 549; United States v. Mueller, 133 Ib., 153; Ripley's case, 223 Ib., 701.

Bidding on the work at the time the statement was made was not under consideration. The boring parties had in view when they made their soundings nothing but the ascertainment of suitable foundations for determining whether the locks could be built at that point.

This part of the finding arises out of the evidence from the whole record, and it is doubtful in the minds of some members of the court whether, as to the single fact, it is necessary to state this opinion of the subordinate agent of the Government under the terms set forth in the case of Southern Development Co. v. Silva, 125 U. S., 247. It can not be said that this opinion was made in order to have it acted on by future bidders. Nor can it be said that it was so acted upon by these contractors to their damage and in ignorance of its falsity. As against the matter of any design to mislead bid-
98 ders, all of them had access to everything in the office of the resident engineer, including the notes relating to the borings pertaining to the character of the material in the river. There is no pretense whatsoever that any information which the records of the office of the resident engineer contained was withheld from anybody. The contract contained an express stipulation warning these contractors not to rely upon the boring sheets.

The circumstances show three things: (1) that the resident engineer had no intention to deceive anybody; (2) even if he had, the specifications put the contractors upon their guard; and (3) in view of their admission the contractors were not deceived at all, inasmuch as they say they had expected to find obstacles and obstructions beneath the surface of the river not noted in the record.

In plain view were snags, stumps, and indications of embedded logs at the very point where these locks were to be constructed.

Nothing whatever appears to have been done to prevent the investigation of the contractors from being as full as they chose to make it. Under such circumstances contractors can not afterwards allege that the Government's resident engineer made representations respecting the subject investigated which were false.

The case of Lehigh Zinc & Iron Co., 150 U. S., 673, is without application because of the two notices to the contractors (1) that the office of the resident engineer was ready to supply all information which the office possessed and upon which the plans were drawn and (2) because the notice to them to satisfy themselves of the material to be excavated qualified the obligation of the defendants to be literally bound by what the boring sheets did show. Notices like these mean something and especially do notices to contractors to satisfy themselves become conclusive unless we deny to defendants the right to make such a contract.

The inducement disclosed by the finding is insufficient to relieve plaintiffs from investigating for themselves. Nor do the findings show that plaintiffs did not have adequate time to investigate or that the engineer officers knew that plaintiffs did not investigate.

In the case of Clapham v. Shillito, 7 Bevan's Rep., 149, Lord Langdale stated the English rule that has generally been followed in this country as follows: "If the means of investigation and verification be at hand and the attention of the party receiving the representation be drawn to them, the circumstances of the case may be such as to make it incumbent on a court of justice to impute to him a knowledge of the result, which, upon due inquiry, he ought to have obtained and thus the notion of reliance on the representations made to him may be excluded."

This finding must be taken from another point of view. If the contractors can now hold the Government liable we must also decide that the contractors would have had the right to rescind the contract as the work progressed. All the authorities sustain this view. "It must be established by clear and decisive proof that the alleged representation was made in regard to a material fact; that it was false; that the maker knew it was not true; that he made it in order to have it acted on by the other party; and that it was so acted upon by the other party to his damage and in ignorance of its falsity and with a reasonable belief that it was true." Southern Development Co. v. Silva, supra.

99 The right to rescind was never claimed. The right to be reimbursed for damages was never preferred. The contractors made no such protest as under the contract they had a right to make if they were misled. They never said that there was imposition such as would sustain an action for deceit after the work had begun. At a time when they could have complained and when the testimony of the resident engineer could have been taken these contractors were silent. This subordinate agent in the meantime died, and we deem it but just to the defendants that the finding should be made not merely for the right of the Government, but likewise because it is due of the deceased resident engineer.

The purpose of the specifications warning bidders to inform and

satisfy themselves as to the nature of the material was to protect defendants against the mistakes or errors of subordinate agents which the Government is compelled to employ in the execution of works of this kind.

As to the cemented sand and gravel and conglomerate, plaintiffs necessarily knew that the improvements they were to construct were to rest either upon such solid foundation as would make the improvements stable or upon piles to be driven into the bed of the river for the same purpose. They knew that all material beneath the surface of the stream had to be excavated until a solid foundation was attained to be judged of by the chief engineer.

Defendants, as in Simpson v. United States, 172 U. S., 372, made the contract without any stipulation that the ground selected should be of defined character. When we admit that there was anything equivalent to a warranty of any kind as to what was or was not in the bed of the river upon which plaintiffs had a right to rely this court in effect reverses the proposition announced in Simpson's case, supra, which, of course, this court can not do.

The contract contained no statement or agreement or even intimation that any warranty express or implied in favor of the contractors was entered into by the United States concerning the character of the soil in the bed of the river by the warning "but bidders must inform themselves as to the nature of the material," without relying on the drawings. In stipulating for sheet piling and the methods to be adopted for making the driving of sheet piles necessary to serve the object in view the contractors could not have relied upon anything in the nature of a warranty respecting the material to be encountered in the progress of that part of the work.

The case of Pearson v. Dublin Corporation, 1907 Appeal Cases, 351, is inapplicable because the questions presented in the case arose out of an action of deceit for damages for alleged fraudulent representations. The House of Lords remanded that case for a new trial entirely upon the question of law arising from the construction of the specifications by the trial judge. It seems that by the terms of a paragraph of the contract in that case the question arose whether the corporation could relieve itself from the consequences of a false and fraudulent representation intentionally inserted by the agents of the corporation in the plans and specifications. The evidence in the present case is entirely different. There was no intention to deceive; and as a matter of fact, it is impossible for us to believe that these contractors were deceived because of the admission made by them that they expected to encounter obstructions below the surface of the water.

100 In the case of Sanitary District of Chicago v. Ricker, 91 Fed. Rep., 833, the circuit court of appeals in reversing the court below declared that a contractor for the excavation of a section of a drainage canal was not entitled to a rescission of his contract because he encountered a substance more difficult and expensive to excavate than anything he was led to expect from examination of the profile and data in the office of the chief engineer—no intentional fraud being charged—nor because some of the trustees

know, or should have known, of the existence of further information on the subject of which they did not inform the contractor. We must further hold that the Chief engineer whose duty it was to let contracts for work could not by representations made to an inexperienced bidder as to the nature of materials to be excavated bind the Sanitary District, much less by expressions of opinion thereon. The conclusion relating to the fourth finding is that the contractor took chances in making their bid as to the extent of the distributing encountered, and that the increased expenditure was the result either of miscalculation of the extent on their part, or, as after trouble arising during the progress of the work from the fresh water naturally precipitated around the holes and hence more material for excavation than they would have encountered but for the water ordinary flow in the rivers.

The fifth finding relates to a matter of engineering by way of preparation for the work of the contractor. Plaintiffs claim an excess of excavation work due to an erroneous angle of repose and the amount demanded is $27,385.40.

Paragraph 49 of the specifications provides that:—

"All dredged or excavated materials of whatever nature will be classified as 'excavation.' All excavations shall conform to such lines, slopes, and grades as may be given by the engineer above, and anything taken out beyond such limits will not be paid for by the United States. The price for excavation shall include the removing of the material to its place of deposit."

* * * * * * *

The limits of the excavation and quantities to be excavated will depend upon the ascertained angles of repose."

Plaintiffs contend that this clause constituted an agreement that all banks should be sloped to those angles of repose which they say in engineering practice means an angle at which the material in an excavated bank will stand firm under any and all conditions of weather or floods, whether under abnormal conditions or otherwise, until the work is completed. Defendants, on the other hand, claim (and the engineer officers so testified) that the term as used in the specifications, and also in engineering practice, did not mean permanent stability under extreme conditions for the slopes of temporary excavations, but merely such angles as to afford stability for sufficient time to enable the work to be done under normal conditions. Much testimony, expert and otherwise, was taken to show the meaning of the term "angle of repose" for excavated banks.

The angle prescribed by the engineer for the slope of all work of a temporary character was an angle of 1 on 1, or 45°. It was said an angle as the banks would stand for the time necessary to complete the work when not submerged from time to time by rivers or rains or a wet condition. During every working season, however, with few exceptions, at least one rise in the river occurs which affects the stability of the slope so as to cause the bank to slough, and during every year there are liable to be and frequent rises than one.

The main object of the engineer officer was the work of the general engineer on the river and harbor bill and the work on the Mississippi river for the flood of temporary or erosion.

For the conditions actually encountered during the working years of 1908 and 1909 were abnormal. During part of that period the work under the contract was hindered by a series of high, violent, and unexpected rises of the river, with consequent loss of property, heavy and of large damage that threatened the work by the extreme effect caused of the engineer's office and the river.

That the levees have stood up to a better work the flooding could not have endured, but the flooding that did rise to high stages. It attempt to be an exact by a number of engineers of the high water Mississippi from above of the work, and although caused by hills and brought heavy work, and work from the work and high pressure on the hill also and into the river.

The stages of the excavation were not taken followed by the men who were to have subsequent flow on an average work of which the banks could have been found which could have come down by erosion with other the condition of which the men have to be subjected. The further flood the subject could have prevented the banks from serious of the high weather and more (from time to the river) weather.

There was no work of high which could have been placed to which the banks would weaken with other subjected of with and of the river as was likely to happen to those of high. If the high be the excavation work had been followed of the general of excavation could have been increased beyond the general amounts of the specifications.

The contract contained that a single flood work of 11 or 12 men should. This work that of a body of 110 engineering the corps should be covered to the Mississippi Division of 1910. The sections work with the hydraulic of 1910 of work of general of it of the of excavation, and by certain things. Previous difficulties have been removed of this that work of the hydraulic agency of implied, which the difficult work by the engineer to conditions encountered of excess.

On the other hand, the completion of the difficulties of the men have to a river as to be expended of certain conditions which of men of to Mississippi the work of report to the high of the work.

The work contracts of the levees for channels, which of the Mississippi Mississippi, of that of Illinois of Chicago Mississippi from and to, and of the other of the work the of which the excavation for an average of the high of the of the work of the of the of the work of the work of the work

carried on the road; that it was the duty of the company so to construct the banks of its cuts that earth will not slide by reason
102 of the action of ordinary natural causes and by inspection and care to see that they are kept in such condition. Failure so to do presented a case of negligence.

The court held that to all intents and purposes a railroad track which runs through a cut where the banks are so near and so steep that the usual laws of gravity would bring upon the track débris created by the common processes of nature was negligence if ordinary skill would enable engineers to foresee the result and allow the company to guard against it.

The case here is entirely different. The letting plans did not show the slopes of the excavation. But the original cross-section sheets, from which the estimated quantities of excavation in the specifications had been calculated, show in pencil the different angles of all slopes at 1 on 1 behind structures for temporary work, and a flatter slope of 1 on 1½ to 1 on 2 during the period of the contract for all permanent work. Both angles of repose were constructed accordingly. These cross-section sheets, although not made part of the letting plans, were on file in the office of the resident engineer and were open to examination by bidders prior to submitting proposals and were, in fact, examined by at least one of the prospective bidders. There was no concealment and plaintiffs do not say there was.

Plaintiffs made no attempt to verify or estimate for themselves prior to the acceptance of their bid the approximate quantities of excavation submitted, nor did they make any inquiry concerning the method by which said approximation had been reached.

The right to recover is based entirely upon the conflict between the parties as to the general meaning of the phrase "ascertained angles of repose."

The specifications provided:

"89. These specifications are intended to be full, clear, and complete, any doubt as to their meaning, or any obscurity in wording of them will be explained by the engineer officer, who shall also have the right to correct any errors or omissions in them whenever such errors or omissions become apparent."

Paragraph 78 declares:

"In all cases of dispute the decision of the United States engineer officer in charge will be accepted as final without appeal."

Can plaintiffs now claim anything unless there be fraud or errors so gross as to imply bad faith? We think not, and as neither fraud, actual or constructive, nor error so gross as to imply bad faith is charged or proven against either Col. Rossell or Col. Spencer Cosby who, at different times had charge of the work and the right to decide differences relating to the meaning of the contract subject to appeal, there is no right to recover on this item.

And here it should be stated, in view of the charge of incompetence and unreasonableness, that there is nothing in the conduct of either one of the chief engineer officers or of the resident engineer or other agent of the Government to reflect upon their capacity, reasonableness, or good faith from the beginning to the end.

There is presented by the sixth finding an item of $1,183.41 for the alleged increased time taken in driving the round piles called for by the contract by reason of the greater difficulty of penetrating occasional obstructions encountered.

The finding shows a sandy soil underlaid by thick and heavy beds of gravel; very hard sand, white, red, and blue in color;
103 gravel, sand, and blue clay; and closely packed sand and coarse gravel, sandstone, and rock. Some of the sheet piles could not be driven to the desired penetration on account of buried logs. But there was much sickness among the pile-driving crews, and during the first season plaintiffs drove both classes of piles without the use of a water jet, but afterwards when jets were used there were times when the pressure of the jets was not strong enough to properly carry on the work. The most serious difficulty was caused by material classified on the boring sheet as hard clay and shown to be underlaid by hard white sand, soft sandstone, and white and blue clay, and it was found impossible to penetrate this material. The pile driving was directed by experienced Government engineers and the inspection was made in accordance with the specifications. Plaintiffs made no written protest that the requirements of the inspectors were unreasonable or that they exceeded the specifications in any particular.

The findings do not show cemented sand and gravel or conglomerate sandstone. There was sand and gravel, otherwise known as conglomerate material, but defendants did not warrant the nature of the material to be excavated, but having warned intending bidders to investigate and satisfy themselves and it being established that no agent of the Government had any knowledge as to the existence of conglomerate in the foundation material under any of the structures, the court is unable to make an allowance on this item.

The failure of the foremen's notes to show conglomerate and its consequent omission from the boring sheets resulted from the fact in all probability, that the borings were not in continuous lines, as were the sheet piles, but said borings were at intervals of from 50 to 68 feet apart and nearly in the center or half way between the continuous water-tight lines of the sheet piles subsequently driven. The borings were made by a water jet forced down through a 1-inch pipe inside an outer casing of a 2-inch pipe. The 1-inch pipe was raised and lowered by hand inside the casing and the samples were washed up through the two pipes and out through a spout above ground, where they were examined. Thus all specimens of material necessarily had to be first so crushed or reduced as to permit them to be washed up in the annular space between the two pipes, and when the drill pipe was in the center of the casing the space was reduced to one-quarter of an inch, less the projection of the sleeve or coupling by which the lengths of the drill pipes were joined together. It seems reasonable to say that the specimens raised by the jet did not indicate its true character to the foreman, whose omission to enter it as conglomerate in the field notes was an honest mistake of judgment.

The finding shows that the specimens raised by the jet would not

have given any different indication from hard and closely packed sand and gravel; that it was impossible to determine by certain borings whether the material was gravel or hardpan.

Paragraph 52 provided that bills and lengths for all piles were to be furnished by the engineer officer, but the contractors were required to furnish and drive, at their own expense, test piles wherever required. Sheet piling was to be jetted into place between temporary walling pieces and settled after jetting with a suitable hammer. The Government stipulated for penetration of at least 10 feet below the bottom of walls and for care as to how the foundation
104 and heart piles should be protected in driving with a 3,000-pound hammer operated by friction or with a 3,500-pound steam hammer.

The court finds that there were at all times during construction at each lock site at least two competent and experienced junior engineers or inspectors well qualified for local charge of the work. These men were usually assisted at each lock site by three or four inspectors and recorders, who generally were men of considerable practical experience or were graduates of engineering schools. Some inexperienced recorders were used to assist in the work, but were not placed in responsible positions until they had acquired some experience and then only under close supervision of competent and experienced superiors.

By the specifications it appears that the sheet piles were to be driven in continuous rows to a depth of at least 10 feet below the bottom of the walls of all structures, but in all cases to the satisfaction of the engineer officer. They were intended to form a screen completely surrounding and protecting all foundations from injury or impairment by undermining or seepage from the river. The stability and integrity of all the structures directly depended upon the officer whom plaintiff had agreed to have the right to be satisfied with their work.

The three different alternative methods by either or all of which the piles were provided to be driven were apparently provided, for the reason that the material shown on the boring sheets was of such varied character as to make it doubtful whether piles could be jetted into that material at all. The boring sheets indicated that in some places the driving would be easy, but that it would not be easy in the gravel and hard gravel shown in the borings.

The findings also show that: (1) None of the pile-driving force of the contractors had ever before attempted to drive continuous lines of water-tight sheet piles; (2) that there was a good deal of sickness among the pile-driving crews and consequent difficulties; (3) both classes of piles during the first season were driven through the heavy beds of gravel without the use of a water jet; (4) there were times when the pressure of the jets in actual use was not as strong as it should have been to properly carry on the work; (5) the dimensions and material of the sheet piles were such that they could not be given as long, and consequently as hard, a blow as the foundation piles; (6) there was, however, some difficulty occasioned by sunken logs, but these were sometimes partially above and at other times wholly below the level of the excavation and along with

other obstructions made the driving somewhat more expensive and difficult enough to result in delays; (7) the greatest difficulty in the matter of pile driving was occasioned by the material found to extend over and above two-thirds of the area of the abutment of Lock 5 and running out for about 40 or 50 feet from the bank under the dam. This material appears on the boring sheet as "hard clay," and is shown to be underlaid by "hard white sand," "very hard white sand," "soft sandstone," "white and blue clay," and "clay."

There is no finding that any of this material was really soapstone and the effort to connect the failure to classify soapstone on the boring sheet as a part of willful and deliberate misrepresen-
105 tation seems to have been abandoned since the requests for findings contain no reference to soapstone.

It is shown that the engineer officer never refused to modify the requirements of the inspectors in charge of pile driving on any part of the work; that the engineer officer witnessed the driving of a pile which was driven too hard, badly bruised and split, and that orders were given to the inspectors not to allow such hard driving. This was done as a matter of protection to the work.

It is also shown that the contractors were notified frequently that if they were not perfectly satisfied with the way in which pile-driving work was being carried on or with the decisions of the inspectors they could immediately bring the matter to the attention of the engineer officer in charge, with the statement that any complaints would have immediate attention. It is also shown that the engineer officer had occasion to remonstrate with the contractors again and again because they did not comply with that request or would constantly refer to some subject of complaint never before brought to the attention of the engineer officer.

In making the closures in the dam at one of the locks the current had scoured the bed of the river out to a depth of 20 feet. The penetration of the sheet piling at that point was 22 feet in what appeared to be tough clay. The head of water when the closure was made was only 2 feet; and after that dam was completed the material below had scoured out in places to a depth of 27 feet, or considerably below in places, the bottom of the sheet piles in the adjacent structures. Such structures have only been saved by the use of considerable rock and stone dumped along the face of the lock wall and the abutment face below the dam. The same thing occurred under an 18-inch head of water when the closing piles for the upper row in the dam at another lock were being driven. The round piles there supporting the pile driver gave way.

While plaintiffs complained of the difficulty of their work, they never at any time made written protest that the requirements of the inspectors were unreasonable or that the specifications under which they were working were exceeded in any particular.

Under the seventh finding there is a demand for an item of $2,871.63 on account of piles billed too long. Plaintiffs say that the engineer officer ordered them of excessive length.

But on January 26, 1901, a complete bill of piles was furnished to contractors.

The lengths shown on this bill were satisfactory to the contractors and were necessary for the work, in the judgment of the engineer officer. No protest or complaint as to the length was thereafter made by the contractors, nor were the engineer officers or any of them requested to alter the lengths as specified.

The eighth finding relates to a claim for $8,520.22 on account of the construction of cofferdams to protect the work against a rise of more than 8 feet. Plaintiffs do not claim that this part of their demand is within the contract, but that they are entitled to recover therefor on quantum meruit.

Paragraphs 45 and 46 provide:

"45. Cofferdams.—All pumping, bailing, and temporary works needed to protect the permanent work from water during construction shall be done by the contractor at his own expense, the
106 cost of same to be included in his prices for concrete, timber, etc. It is probable that the sheet piling entering into permanent construction can, with proper banking and shoring, be made to serve the purpose of cofferdams, but the contractor must rely upon his own judgment in regard to this. Should additional cofferdams be needed they shall be built on plans approved by the engineer officer, and where liable to interfere, directly or indirectly, with navigation, shall be removed when no longer needed, the building, maintaining, and removal of same to be without cost to the United States.

"46. Dams.—It is probable that the dams can be built without cofferdamming, but the contractor must rely upon his own judgment in regard to this, and should cofferdams prove necessary, it is understood and agreed that they shall be furnished by the contractor without cost to the United States. The method of construction suggested is first to dredge the site of dam to a level about 6 inches below the pile heads, then drive the three rows of sheet piling continuously from one end, cutting them off a sufficient distance below low water to permit the low-water flow of the river to pass over them without much head; then drive the foundation piles and cut them off at grade; then build the cribwork, one course at a time, filled and sheathed, protecting the work where necessary by temporary flashboards from the water, which will continuously flow over the work in a thick sheet. The dam shall be filled with gravel or stone, or both, at the option of the engineer officer."

The specifications are explicit in the requirement that the contractors should furnish all cofferdams needed for the protection of the permanent work without cost. This part of the claim must fail unless in the requirements of the engineer officer in this regard there appears fraud or mistake so gross as to imply bad faith.

The resident engineer who is charged with intentional misrepresentation was dead before his proof could ever be taken. The charge against him is that he exhibited to two of plaintiffs upon the occasion of their preliminary visit to his office in Tuscaloosa hydrographs of gauge readings of the river taken at Tuscaloosa, and

represented to them that these hydrographs showed the exact conditions of the river at the lock sites 46, 63, and 79 miles, respectively, below, whereas, in fact, there were in existence at that time readings from other gauges located at points in closer proximity to the lock sites which showed higher readings and longer duration of floods—conditions less favorable to the construction of the work than those indicated by the Tuscaloosa gauge. It is charged that this fact was well known by the resident engineer but concealed from the contractors, which caused them to omit from their estimates the cost of expensive cofferdams which otherwise would have been included.

The two contractors mentioned who were present and took part in the same conversation with the resident engineer contradict each other. We find no fraud, actual or constructive, and no such gross mistake in his conduct or by anything he is alleged to have said as to imply bad faith.

That the work might be continued at the end of the first season the engineer officer decided to direct the contractors to finish the cofferdams consisting of mounds of earth then standing at approximately 9 feet above low water to a height of 10 feet at their expense and to cap the same with a cofferdam built of sheet piling to a
107 height of 20 feet above low water, the last to be paid for under paragraph 88 of the specifications at three-fourths of the contract price for sheet piling, to which the contractors agreed. The contractors had notice on November 17, 1900, that the only reason for building the cofferdams at the time was to have the permanent work continued during the winter. The contractors were directed to complete them at the earliest day possible, so to increase their force as to build them without retarding the permanent work, and for the same reason the excavations from the lock pits were required to be diverted from the mounds to cofferdams. They were told that before beginning work on the cofferdams to give a written statement as to building the cofferdams without in any way retarding the permanent work with a proposal to press the permanent work through the coming winter as the stage of river permitted. Three days after receipt of the order and before the work of constructing the cofferdams could be commenced, the river rose to and remained at such a height it was not possible to build cofferdams during that winter.

On May 4, 1901, the resident engineer informed contractors that there was an unwillingness to pay for any cofferdam structures in addition to those authorized November 17, 1900; and also that there was doubt as to authority on the part of the writer of the notice (the resident engineer) to pay for putting in the structures previously authorized as the emergency for which they were intended to provide had passed. That is to say, that there could be no prosecution of construction during the winter. Plaintiffs protested, and on May 9, 1901, the engineer officer referred the whole question direct to the Chief of Engineers for decision, who, after securing the views of Col. Haines, the division engineer officer, submitted the matter to the Secretary of War. The question in turn was decided by the Judge

Advocate General of the Army as to whether the proposed sheet-pile topping could be paid for under a modification of the original project by a supplemental agreement or whether the work should be performed by the contractors at their own expense under paragraph 45 of the specifications. The opinion was given that there was no legal authority to modify the contract so as to provide that the contractors should be paid for this work; and that when the principal engineer officer in charge on the spot designed the work and prepared the specifications or what he gave the bidders to understand in the matter of the preparations of foundations being done at low water could not be admitted to vary the plain terms of the written contract.

The Secretary of War approved the views of the Judge Advocate General and the contractors were notified.

By paragraph 45 all temporary works needed to protect the permanent work from water, during work, was provided to be done by the contractors at their expense, the cost of which was to be included in prices for concrete and timber. The same paragraph provided for additional cofferdams, if needed, to be built on plans approved by the engineer officer—subject, of course, to the terms of the contract.

Plaintiffs have undertaken to give the engineer officer's idea as to what prospective bidders were given to understand. But the finding shows that the information obtained by prospective bidders was given, not by him, but from information received in the Tuscaloosa office of the resident engineer.

108 The fraud charge against the resident engineer is that he did not furnish any other or additional information to the two plaintiffs who went to his office, as to river stages at the lock sites other than that shown by the gauge at Tuscaloosa.

The court is of opinion that the alleged oral representation is inadmissible, not only because it is in direct contradiction to those provisions of paragraphs 45 and 46, but also because the testimony on this point as to what the resident engineer is alleged to have said is not sufficiently proven to be made a part of the findings of the court.

It is specifically stated in paragraph 46 that while it was probable that the dams could be built without cofferdams and that the contractors must rely upon their own judgment in regard to this, nevertheless, "should cofferdams prove necessary, it is understood and agreed that they shall be furnished by the contractor without cost to the United States."

The hydrograph establishes the finding that the readings at Tuscaloosa are higher in each instance than at either of the interpolated gauges located at the lock sites.

The Tuscaloosa gauge was located 9 miles below Lock 4, Black Warrior River. There is scarcely any fall or drop in the Warrior for 24 miles below Tuscaloosa and about 60-foot fall in the next 106 miles to Demopolis. Inasmuch as the complete surveys of the river had been made from Demopolis up to Tuscaloosa, the contractors

could easily have ascertained before bidding just what the gauge was between the two points.

It is contended that paragraph 88 of the specifications conferred full power on the engineer officer to pay for the cost of the cofferdams. That paragraph relates to purchases made or work done not specified, and reads as follows:

"If at any time it should become necessary, in the opinion of the engineer officer in charge, to do any work or to make any purchases not herein specified, for the proper completion of this work, the contractor will be required to furnish the same at the current rates existing at the time of said purchase or work. The current rates to be determined by the engineer officer in charge."

This paragraph can not be invoked to sustain the item in dispute, because paragraph 88 is limited to work or purchases not specified in the contract. But cofferdams were expressly specified to be furnished by the contractor without cost should their construction prove necessary. When the engineer officer determined that these were necessary for the protection of the work the terms of the contract were fully met.

The total cost of all cofferdams (excluding those constructed for the purpose of building the dams) was $11,456.91. An allowance of $2,000 apiece was made in the proposal for cofferdams for each lock, making $6,000 in all. This part of the finding being an admission of one of the plaintiffs, the claim for more money under this item is inconsistent with the admission.

It is possible that the dispute about this item grew out of a mistake on the part of the plaintiffs in their estimate as to the cost of the cofferdams.

While the court has found that there was no fraud or deception practiced upon plaintiffs with respect to the necessity of cofferdams in the prosecution of the work, and while the court is of opinion that the amount claimed should not be allowed, because of
109 the terms of the contract, the sum claimed should be reduced to $5,456.91 (if considered as a liability at all) because of a necessary deduction of $6,000 from $11,456.91.

In the case of Plumley v. United States, recently decided on appeal from this court to the Supreme Court, 226 U. S. R., it was held that Plumley could not recover for that which, though extra, was not ordered by the engineer officer in the manner required by the contract. Here is a distinct affirmation of the meaning of section 3744, Revised Statutes, Ripley v. United States, 223 U. S., 695; McMullan v. United States, 226 U. S.

By the ninth finding compensation is claimed for excavation through earth levees erected by the contractors for the protection of the lock work which it was necessary to remove in order to construct foundations for the dams. Paragraph 45 required the contractors to remove the cofferdams when no longer needed and where liable to interfere, directly or indirectly, with navigation their removal was to be without cost to the United States. The dams could not be constructed until the cofferdams were removed and the earth used therein excavated, and this excavation was to some extent an inter-

ference with navigation. Payment for this work, the cost of which was $913.29, was properly refused.

The tenth finding presents a claim of $9,754.55 growing out of the substitution of stone filling for the dams in place of gravel filling and of riprap for the banks furnished at a loss, which the court finds amounted to $14,494.45.

In two of the paragraphs of the specifications we find a provision for a filling of "gravel or stone." The direction for gravel filling seems to be final; but bids were called for to cover both, and the contract provided for gravel filling, per cubic yard, for Nos. 4, 5, and 6, 42 cents; following "and for alternative matters, when used, as follows: Stone filling, per cubic yard, for Nos. 4, 5, and 6, $1.14."

This gave the defendants the option of ordering stone in place of gravel in whole or in part, for the filling for the dams.

After the contract was signed there were delivered to plaintiffs their working drawing plans, identical with those shown them when preparing to bid and were identical with those annexed to the contract. They arranged for procuring sand and gravel close to the scene of the work.

In October, 1900, plaintiffs were given notice to deliver stone for filling the dams to the quantity of 11,590 cubic yards. Some protests not to the substitution but to the quantity called for followed, but there was finally a decision by the engineer officer that the minimum amount of stone that could be accepted for the three locks was 12,000 cubic yards. The final estimate showed a total of 7,110 cubic yards. For all three locks there was a total of both stone filling and riprap of 13,967.99 cubic yards.

Plaintiffs gave notice that they did not "take kindly to the idea of having changes from the original plans," and asked for a decrease of the stone quantities. The engineer officer decided that 12,000 cubic yards was the minimum amount of stone that could be accepted under the contract. Revised plans for the dams were prepared by direction of the engineer officer, and on February 29, 1902, the engineer officer modified the requirements for the substitution of stone in whole for gravel filling in the dams and submitted
110 an outline of the proposed changes. Plaintiffs notified the officer that the changes indicated were acceptable to them, and accordingly they were furnished revised plans for the dams and bank protection, which they also informed the officer were satisfactory to them. Thereafter a supplemental agreement was executed.

Lock 5 was not navigable during the high water of the winter and spring of 1902-3. Had plaintiffs earlier completed the dam at Lock 6 which made necessary the turning of the river through the lock for the convenience of the contractors and to facilitate the construction of the dam there would have been no delay. Plaintiffs caused the delay of two weeks in the erection of the gates at the upper lock.

The court can not find that there was any fault on the part of the Government to provide gates, but, on the contrary, plaintiffs were directly responsible for the delay.

If there was an increased expense to the contractors in procuring

stone at a different quarry from that from which they first expected to obtain stone the fault was with them.

The plan prepared at the outset for procuring sand and gravel would have been necessary in any event to supply materials for making the concrete of which the structures were built, whether the contractors had been specifically informed when the contract was signed or not that stone would be required in accordance with their proposal and agreement.

Plaintiffs made no protest in writing against or appeal from the engineer officer's decision directing the use of stone for filling the dams or protecting the banks.

On the whole case we find that plaintiffs are entitled to judgment on the second finding amounting to $9,391.57; on the third finding, plaintiffs are entitled to judgment in the sum of $100.

As to the items setting forth demands in all of the other findings of the court, judgment will be entered for defendants, and as to the amounts therein claimed the petition is dismissed.

Judgment under the two findings above mentioned will be entered for the sum of $9,491.57 in favor of plaintiffs against the United States.

BARNEY, *J.*, dissenting:

I can not agree with the majority of the court as to the effect of the facts as determined by the fourth finding. Paragraph 48 of the specifications provides that "The material as far as known is shown by borings, drawings of which may be seen at this office, but bidders must inform themselves as to the nature of the material." It appears by the above finding that the drawings above mentioned did not contain a correct statement of the conditions or materials found in making said borings; that obstructions were met which prevented penetration, sunken logs were encountered, and that no record thereof was ever made or exhibited on said drawings. When the work under the contract came to be done the plaintiffs found the materials were more difficult and expensive to penetrate and excavate than ordinary sand and gravel and clay, such as described or named in the exhibited drawings. The damage caused thereby to the plaintiffs is found in said finding to be $6,150.

The theory upon which relief to the plaintiffs has been denied for the damage resulting from this discrepancy between the materials as shown by the drawings exhibited and as actually encountered
111 is based, as I think, upon a wrong conception of the law applicable to such cases. This is not an action in tort to recover damages for deceit; neither is it an action in equity to rescind a contract for the same reason. But so far as this branch of the case is concerned it is a suit upon a contract to recover damages on account of a misrepresentation therein contained amounting to a warranty. While this may be said to have been assumed in the majority opinion of the court, the decision upon this branch of the case appears to have turned upon the question of deceit as that term is usually understood in the law. Warranty is the gist of the suit in this item of the case, and as I understand the law the question of

scienter does not enter into its consideration. It makes no difference what the object of taking the borings was, whether the obstructions encountered were innocently omitted from the drawings or not, or whether the Government officers were honest or dishonest in making the representations they did or not. It is simply a question as to whether representations as to the materials to be encountered were made which were not true, whether these representations were material, and whether the plaintiffs had a right to rely upon them and did rely upon them to their damage; in other words, whether the representations were a valid part of the contract.

I think the rule is universal that when a party sues in contract for a breach of warranty the motive of the warrantor, or his knowledge or ignorance of the representations made, have nothing to do with the case whatever. In technical language it is not necessary in such an action either to allege or prove the scienter. (Bishop on Frauds, 29; Schuchardt v. Allen, 1 Wall., 359, 368; Shippen v. Brown, 122 U. S., 595.)

Even if this were an action in equity between private parties to rescind the contract on the ground of fraud, I think the findings would sustain such an action. An extensive discussion of this proposition is perhaps unnecessary, but its correctness reinforces the proposition that the findings will certainly sustain a recovery under Finding IV of this case. The whole doctrine upon this subject is well stated in Story's Equity Jurisprudence, where it is said (sec. 193):

"Whether the party, thus misrepresenting a material fact, knew it to be false, or made the assertion without knowing whether it were true or false, is wholly immaterial; for the affirmation of what one does not know or believe to be true is equally, in morals and law, as unjustifiable as the affirmation of what is known to be positively false. And even if the party innocently misrepresents a material fact by mistake, it is equally conclusive, for it operates as a surprise and imposition upon the other party."

The law is equally well settled by the Supreme Court in Smith v. Richards, 13 Pet., 30, which was an action to set aside a contract for fraud, where it was said:

"The principles of these cases we consider founded in sound morals and law. They rest upon the ground that the party selling property must be presumed to know whether the representation which he makes of it is true or false. If he knows it to be false, that is fraud of the most positive kind; but if he does not know it, then it can only be from gross negligence; and in contemplation of a court of equity representations founded on mistake, resulting from
112 such negligence, is fraud. (6 Ves., 180, 189; Jeremy, 385, 386.) The purchaser confides in it, upon the assumption that the owner knows his own property and truly represents it; and, as was well argued in the case in Cranch, it is immaterial to the purchaser whether the misrepresentation proceeded from mistake or fraud. The injury to him is the same, whatever may have been the motive of the seller." (Ib., 38.)

This question, however, as already said, it is not necessary to dis-

case here because this is an action ex contractu, and the ordinary jurisdiction of this court extends to no other.

It is said in Parsons on Contracts: "It is certain that misrepresentation may not imply fraud in fact, because it may spring wholly from mistake; and nothing would be gained by calling a misrepresentation, which is innocent in fact, fraudulent in law. It is enough to say that material misrepresentations which go to the substance of a contract avoid that contract whether they are caused by mistake and occur wholly without fault or are designed and fraudulent." (2 Parsons on Contracts, 786.)

Or, as was said by the late Justice Harlan: "Where the representations are material and are made by the vendor or lessor for the purpose of their being acted upon, and they relate to matters which he is bound to know or is presumed to know, his actual knowledge of them being untrue is not essential." (Lehigh Zinc & Iron Co. v. Bamford, 150 U. S., 665, 673.)

The case of Barndt v. Frederick, 78 Wis., 1, was a suit brought to recover damages on account of misrepresentations made as to the value of silver mining stocks, and one of the questions involved in the decision of the case was, whether the pleadings showed it to be an action ex delicto or an action ex contractu. In the discussion of that question the court said: "Before the plaintiff can recover on the implied assumpsit he must show that the defendant made representations of fact materially affecting the value of the stock; that the plaintiff relied upon such representations and purchased the stock on the faith of them, believing them to be true; that they were false; and that, within a reasonable time after discovering they were false, the plaintiff rescinded the contract of purchase by returning or offering to return the stock to the defendant. It need not be averred or proved that the defendant knew his representations were false. His legal liability remains although he believed and had good reason to believe his representations true."

Fraud or deceit, as those terms are usually understood, have nothing to do in the decision of this case. I say as "usually understood" because their use usually implies conscious dishonesty, which, as I understand it, cuts no figure in this case. It is doubtless true and may be assumed that the officers of the Government who made the representations which preceded the making of this contract were honestly mistaken as to the incorrectness of the drawings exhibited with the specifications; and it may be assumed that the omission from these drawings of the record of the sunken logs encountered and of the borings which were abandoned because of obstructions encountered, was made innocently and with no intent to deceive the plaintiffs or anyone.

What are the facts in this case relating to this item as disclosed by the record and the findings? The advertisement for bid-
113 ders was dated December 20, 1899, and the time for receiving proposals was limited to 12 o'clock noon on the 20th of January, 1900, 31 days, including Sundays and holidays. It is not disclosed when this advertisement came to the notice of the plaintiffs

115 VII. *Judgment of the Court.*

No. 24693.

GEORGE B. CHRISTIE, JESSE LOWE, and JAMES O. HEYWORTH, Surviving Partners of the Firm of Christie, Lowe & Heyworth,

v.

THE UNITED STATES.

At a Court of Claims held in the City of Washington on the 7th day of April, 1913, judgment was ordered to be entered as follows:

The Court on due consideration of the premises find in favor of the claimants, and do order, adjudge and decree that the claimants, George B. Christie, Jesse Lowe, and James O. Heyworth, Surviving Partners of the Firm of Christie, Lowe & Heyworth, do have and recover of and from the United States the sum of nine thousand four hundred and ninety-one dollars and fifty-seven cents ($9,491.57).

BY THE COURT.

VIII. *Application for Appeal.*

From the judgment rendered in this cause on the seventh day of April, 1913, the claimants, George B. Christie, Jesse Lowe and James O. Heyworth, surviving partners of the firm of Christie, Lowe & Heyworth, by their attorneys of record, hereby make application for and give notice of an appeal to the Supreme Court of the United States.

DUANE E. FOX AND
KING & KING,
Attorneys for Claimants.

Filed in open court June 16, 1913, whereupon it was ordered that the appeal be allowed, as prayed for, by the court.

116 In the Court of Claims.

No. 24693.

GEORGE B. CHRISTIE, JESSE LOWE, and JAMES O. HEYWORTH, Surviving Partners of the Firm of Christie, Lowe & Heyworth,

v.

THE UNITED STATES.

I, John Randolph, Assistant Clerk of the Court of Claims, certify that the foregoing are true transcripts of the pleadings in the above entitled cause of the findings of fact and conclusion of law, of the opinion of the court and dissenting opinion, of the judgment of the court, of the application of the claimants for, and the allowance of appeal to the Supreme Court of the United States.

In testimony whereof I have hereunto set my hand and affixed the seal of the Court of Claims this 21st day of June 1913.

[Seal Court of Claims.]

JOHN RANDOLPH,
Assistant Clerk Court of Claims.

117 [Endorsed:] O. K. Huston Thompson, Assistant Attorney General, by P. M. A.

Endorsed on cover: File No. 23,761. Court of Claims. Term No. 204. George B. Christie, Jesse Lowe, and James O. Heyworth, surviving partners of the firm of Christie, Lowe & Heyworth, appellants, vs. The United States. Filed June 23d, 1913. File No. 23,761.